***Corporate Finance, 4e, Global Edition* (Berk / DeMarzo)**

**Chapter 14 Capital Structure in a Perfect Market**

14.1 Equity Versus Debt Financing

*Use the following information to answer the question(s) below.*

Nielson Motors (NM) has no debt. Its assets will be worth $600 million in one year if the economy is strong, but only $300 million if the economy is weak. Both events are equally likely. The market value today of Nielson's assets is $400 million.

1) The expected return for Nielson Motors stock without leverage is closest to:

A) -25.0%

B) -17.5%

C) -12.5%

D) 12.5%

2) Suppose the risk-free interest rate is 4%. If Nielson borrows $150 million today at this rate and uses the proceeds to pay an immediate cash dividend, then according to MM, the market value of its equity just after the dividend is paid would be closest to:

A) $0 million

B) $150 million

C) $250 million

D) $400 million

3) Suppose the risk-free interest rate is 4%. If Nielson borrows $150 million today at this rate and uses the proceeds to pay an immediate cash dividend, then according to MM, the expected return of Nielson's stock just after the dividend is paid would be closest to:

A) -17.5%

B) -12.5%

C) 12.5%

D) 17.5%

4) Which of the following statements is FALSE?

A) The relative proportions of debt, equity, and other securities that a firm has outstanding constitute its capital structure.

B) The most common choices are financing through equity alone and financing through a combination of debt and equity.

C) The project's NPV represents the value to the new investors of the firm created by the project.

D) When corporations raise funds from outside investors, they must choose which type of security to issue.

5) Equity in a firm with debt is called:

A) levered equity.

B) riskless equity.

C) unlevered equity.

D) risky equity.

6) Equity in a firm with no debt is called:

A) levered equity.

B) unlevered equity.

C) riskless equity.

D) risky equity.

7) Which of the following statements is FALSE?

A) Modigliani and Miller's conclusion verified the common view, which stated that even with perfect capital markets, leverage would affect a firm's value.

B) We can evaluate the relationship between risk and return more formally by computing the sensitivity of each security's return to the systematic risk of the economy.

C) Investors in levered equity require a higher expected return to compensate for its increased risk.

D) Leverage increases the risk of equity even when there is no risk that the firm will default.

8) Which of the following statements is FALSE?

A) Leverage decreases the risk of the equity of a firm.

B) Because the cash flows of the debt and equity sum to the cash flows of the project, by the Law of One Price the combined values of debt and equity must be equal to the cash flows of the project.

C) Franco Modigliani and Merton Miller argued that with perfect capital markets, the total value of a firm should not depend on its capital structure.

D) It is inappropriate to discount the cash flows of levered equity at the same discount rate that we use for unlevered equity.

*Use the information for the question(s) below.*

Consider a project with free cash flows in one year of $90,000 in a weak economy or $117,000 in a strong economy, with each outcome being equally likely. The initial investment required for the project is $80,000, and the project's cost of capital is 15%. The risk-free interest rate is 5%.

9) The NPV for this project is closest to:

A) $6250

B) $14,100

C) $10,000

D) $18,600

10) Suppose that to raise the funds for the initial investment, the project is sold to investors as an all-equity firm. The equity holders will receive the cash flows of the project in one year. The market value of the unlevered equity for this project is closest to:

A) $94,100

B) $90,000

C) $86,250

D) $98,600

11) Suppose that to raise the funds for the initial investment the firm borrows $80,000 at the risk free rate, then the cash flow that equity holders will receive in one year in a weak economy is closest to:

A) $6000

B) $10,000

C) $0

D) $33,000

12) Suppose that to raise the funds for the initial investment the firm borrows $80,000 at the risk free rate, then the cash flow that equity holders will receive in one year in a strong economy is closest to:

A) $0

B) $6000

C) $33,000

D) $10,000

13) Suppose that to raise the funds for the initial investment the firm borrows $80,000 at the risk free rate, then the value of the firm's levered equity from the project is closest to:

A) $0

B) $10,000

C) $6000

D) $8600

14) Suppose that to raise the funds for the initial investment the firm borrows $80,000 at the risk free rate, then the cost of capital for the firm's levered equity is closest to:

A) 45%

B) 25%

C) 15%

D) 95%

15) Suppose that to raise the funds for the initial investment the firm borrows $40,000 at the risk free rate and issues new equity to cover the remainder. In this situation, the cash flow that equity holders will receive in one year in a weak economy is closest to:

A) $90,000

B) $0

C) $50,000

D) $48,000

16) Suppose that to raise the funds for the initial investment the firm borrows $40,000 at the risk free rate and issues new equity to cover the remainder. In this situation, the cash flow that equity holders will receive in one year in a strong economy is closest to:

A) $117,000

B) $75,000

C) $50,000

D) $0

17) Suppose that to raise the funds for the initial investment the firm borrows $40,000 at the risk free rate and issues new equity to cover the remainder. In this situation, the value of the firm's levered equity from the project is closest to:

A) $0

B) $50,000

C) $90,000

D) $40,000

18) Suppose that to raise the funds for the initial investment the firm borrows $40,000 at the risk free rate and issues new equity to cover the remainder. In this situation, the cost of capital for the firm's levered equity is closest to:

A) 23%

B) 25%

C) 15%

D) 18%

19) Suppose that to raise the funds for the initial investment the firm borrows $45,000 at the risk free rate and issues new equity to cover the remainder. In this situation, calculate the value of the firm's levered equity from the project. What is the cost of capital for the firm's levered equity?

20) Two separate firms are considering investing in this project. Firm unlevered plans to fund the entire $80,000 investment using equity, while firm levered plans to borrow $45,000 at the risk-free rate and use equity to finance the remainder of the initial investment. Construct a table detailing the percentage returns to the equity holders of both the levered and unlevered firms for both the weak and strong economy.

21) Two separate firms are considering investing in this project. Firm unlevered plans to fund the entire $80,000 investment using equity, while firm levered plans to borrow $45,000 at the risk-free rate and use equity to finance the remainder of the initial investment. Calculate the expected returns for both the levered and unlevered firm.

22) Two separate firms are considering investing in this project. Firm unlevered plans to fund the entire $80,000 investment using equity, while firm levered plans to borrow $45,000 at the risk-free rate and use equity to finance the remainder of the initial investment. Calculate the risk premiums for both the levered and unlevered firm.

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**Chapter 15 Debt and Taxes**

15.1 The Interest Tax Deduction

1) Which of the following statements is FALSE?

A) In general, the gain to investors from the tax deductibility of interest payments is referred to as the interest tax shield.

B) The interest tax shield is the additional amount that a firm would have paid in taxes if it did not have leverage.

C) Because Corporations pay taxes on their profits after interest payments are deducted, interest expenses reduce the amount of corporate tax firms must pay.

D) As Modigliani and Miller made clear in their original work, capital structure matters in perfect capital markets. Thus, if capital structure does not matter, then it must stem from a market imperfection.

*Use the table for the question(s) below.*

Consider the following income statement for Kroger Inc. (all figures in $ Millions):

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2006** | **2005** | **2004** |
| Total Sales | 60,553 | 56,434 | 53,791 |
| Cost of goods sold | 45,565 | 42,140 | 39,637 |
| Selling, general & admin expenses | 11,688 | 12,191 | 11,575 |
| Depreciation | 1265 | 1256 | 1209 |
| Operating Income | 2035 | 847 | 1370 |
| Other Income | 0 | 0 | 0 |
| EBIT | 2035 | 847 | 1370 |
| Interest expense | 510 | 557 | 604 |
| Earnings before tax | 1525 | 290 | 766 |
| Taxes (35%) | 534 | 102 | 268 |
| Net Income | 991 | 189 | 498 |

2) The interest rate tax shield for Kroger in 2006 is closest to:

A) $187 million

B) $332 million

C) $534 million

D) $179 million

3) The interest rate tax shield for Kroger in 2005 is closest to:

A) $362 million

B) $36 million

C) $102 million

D) $195 million

4) The interest rate tax shield for Kroger in 2004 is closest to:

A) $268 million

B) $393 million

C) $211 million

D) $94 million

5) The total amount available to payout to all the investors in Kroger in 2006 is closest to:

A) $990 million

B) $1525 million

C) $1500 million

D) $2035 million

6) The total amount available to payout to all the investors in Kroger in 2005 is closest to:

A) $190 million

B) $847 million

C) $745 million

D) $290 million

7) The income that would be available to equity holders in 2006 if Kroger was not levered is closest to:

A) $1525 million

B) $2035 million

C) $1500 million

D) $1325 million

8) The income that would be available to equity holders in 2005 if Kroger was not levered is closest to:

A) $290 million

B) $745 million

C) $847 million

D) $550 million

*Use the information for the question(s) below.*

Rosewood Industries has EBIT of $450 million, interest expense of $175 million, and a corporate tax rate of 35%.

9) Rosewood's net income is closest to:

A) $450 million

B) $180 million

C) $290 million

D) $95 million

10) The total of Rosewood's net income and interest payments is closest to:

A) $270 million

B) $355 million

C) $290 million

D) $450 million

11) If Rosewood had no interest expense, its net income would be closest to:

A) $405 million

B) $160 million

C) $450 million

D) $290 million

Answer: D

Explanation: D) Net income = (*EBIT* - Interest expense)(1 - *τC*)

= (450 - 0)(1 - .35) = $292.50

Diff: 1

Section: 15.1 The Interest Tax Deduction

Skill: Analytical

12) The amount of Rosewood's interest tax shield is closest to:

A) $115 million

B) $290 million

C) $175 million

D) $60 million

*Use the information for the question(s) below.*

Fly by Night Aviation (FBNA) expects to have net income next year of $24 million and interest expense of $3 million. FBNA's marginal corporate tax rate is 40%.

13) FBNA's EBIT is closest to:

A) $43 million

B) $40 Million

C) $45 million

D) $60 million

14) IF FBNA increases leverage so that its interest expense rises by $1 million, then the amount its net income will change is closest to:

A) -$400,000

B) -$600,000

C) $400,000

D) $600,000

15) IF FBNA increases leverage so that its interest expense rises by $1 million, then the amount its unlevered EBIT will change is closest to:

A) $0

B) -$400,000

C) $600,000

D) $400,000

*Use the table for the question(s) below.*

Consider the following income statement for Kroger Inc. (all figures in $ Millions):

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2006** | **2005** | **2004** |
| Total Sales | 60,553 | 56,434 | 53,791 |
| Cost of goods sold | 45,565 | 42,140 | 39,637 |
| Selling, general & admin expenses | 11,688 | 12,191 | 11,575 |
| Depreciation | 1265 | 1256 | 1209 |
| Operating Income | 2035 | 847 | 1370 |
| Other Income | 0 | 0 | 0 |
| EBIT | 2035 | 847 | 1370 |
| Interest expense | 510 | 557 | 604 |
| Earnings before tax | 1525 | 290 | 766 |
| Taxes (35%) | 534 | 102 | 268 |
| Net Income | 991 | 189 | 498 |

16) Calculate the interest tax shield, the total amount available to payout to all the investors, and the income that would be available to equity holders if Kroger was not levered for the year 2004.

15.2 Valuing the Interest Tax Shield

1) Assume that investors hold Google stock in retirement accounts that are free from personal taxes. Also assume that Google's current pre-tax WACC is 14%. If Google were to issue sufficient debt at a pre-tax cost of 7% to give them a debt to value ratio of 0.5, then the Google's after-tax WACC would be closest to:

A) 10.4%

B) 12.8%

C) 13.0%

D) 15.0%

E) 16.0%

*Use the following information to answer the question(s) below.*

Wyatt Oil issued $100 million in perpetual debt (at par) with an annual coupon of 7%. Wyatt will pay interest only on this debt. Wyatt's marginal tax rate is expected to be 40% for the foreseeable future.

2) Wyatt's annual interest tax shield is closest to:

A) $2.8 million

B) $4.2 million

C) $7.0 million

D) $40 million

3) The present value of Wyatt's annual interest tax shield is closest to:

A) $4.2 million

B) $7.0 million

C) $40 million

D) $60 million

4) Assume that five years have passed since Wyatt issued this debt. While tax rates have remained at 40%, interest rates have dropped so that Wyatt's current cost of debt capital is now only 4%. Wyatt's annual interest tax shield is now closest to:

A) $2.8 million

B) $4.2 million

C) $40.0 million

D) $60.0 million

5) Assume that five years have passed since Wyatt issued this debt. While tax rates have remained at 40%, interest rates have dropped so that Wyatt's current cost of debt capital is now only 4%. The present value of Wyatt's annual interest tax shield is now closest to:

A) $2.8 million

B) $40.0 million

C) $60.0 million

D) $70.0 million

6) Rearden Metal has no debt, and maintains a policy of holding $50 million in excess cash reserves, invested in risk free treasury securities currently yielding 4%. If Rearden is in the 40% marginal tax bracket, the cost of permanently maintaining this $50 million reserve is closest to:

A) $0.8 million

B) $1.2 million

C) $20.0 million

D) $30.0 million

7) Nielson Motors has no debt, and maintains a policy of holding $80 million in excess cash reserves, invested in risk free treasury securities currently yielding 3%. If Nielson is in the 35% marginal tax bracket, the cost of permanently maintaining this $80 million reserve is closest to:

A) $0.85 million

B) $1.6 million

C) $24.0 million

D) $28.0 million

8) Taggart Transcontinental currently has no debt and an equity cost of capital of 16%. Suppose that Taggart decides to increase its leverage and maintain a market debt-to-value ratio of 1/3. Suppose Taggart's debt cost of capital is 9% and its corporate tax rate is 35%. Assuming that Taggart's pre-tax WACC remains constant, then with the addition of leverage its effective after-tax WACC will be closest to:

A) 12.9%

B) 13.0%

C) 15.0%

D) 16.0%

9) Rearden Metal currently has no debt and an equity cost of capital of 14%. Suppose that Rearden decides to increase its leverage and maintain a market debt-to-value ratio of 1/2. Suppose Rearden's debt cost of capital is 8% and its corporate tax rate is 40%. Assuming that Rearden's pre-tax WACC remains constant, then with the addition of leverage its effective after-tax WACC will be closest to:

A) 10.8%

B) 12.4%

C) 12.8%

D) 13.4%

10) Which of the following statements is FALSE?

A) To determine the benefit of leverage for the value of the firm, we must compute the present value of the stream of future interest tax shields the firm will receive.

B) Because the cash flows of the levered firm are equal to the sum of the cash flows from the unlevered firm plus the interest tax shield, by the Law of One Price the same must be true for the present values of these cash flows.

C) By increasing the amount paid to debt holders through interest payments, the amount of the pre-tax cash flows that must be paid as taxes increases.

D) When a firm uses debt, the interest tax shield provides a corporate tax benefit each year.

11) Which of the following statements is FALSE?

A) Given a forecast of future interest payments, we can determine the interest tax shield and compute its present value by discounting it at a rate that corresponds to its risk.

B) The total value of the unlevered firm exceeds the value of the firm with leverage due to the present value of the tax savings from debt.

C) To compute the increase in the firm's total value associated with the interest tax shield, we need to forecast a firm's debt and its interest payments.

D) There is an important tax advantage to the use of debt financing.

15.4 Personal Taxes

1) Assume that the corporate tax rate is 40%, the personal tax rate on income from equity is 20% and the personal rate on interest income is 36%. The effective tax advantage of a corporate issuing debt would be closest to:

A) 10%

B) 15%

C) 25%

D) 28%

*Use the following information to answer the question(s) below.*

Google Corporation has no debt on its balance sheet in 2008, but paid $1.6 billion in taxes. Assume that Google's marginal tax rate is 35% and Google's borrowing cost is 7%.

2) Assume that investors hold Google stock in retirement accounts that are free from personal taxes. If Google were to issue sufficient debt to reduce its taxes by $1 billion per year permanently, then the amount that Google needs to borrow is closest to:

A) $14.25 billion

B) $22.00 billion

C) $24.50 billion

D) $40.75 billion

3) Assume that investors hold Google stock in retirement accounts that are free from personal taxes. If Google were to issue sufficient debt to reduce its taxes by $1 billion per year permanently, then the value that would be created is closest to:

A) $14.25 billion

B) $22.00 billion

C) $24.50 billion

D) $40.75 billion

4) Assume that investors in Google pay a 15% tax rate on income from equity and a 35% tax rate on interest income. If Google were to issue sufficient debt to reduce its taxes by $1 billion per year permanently, then the effective tax advantage of this debt would be closest to:

A) 10%

B) 15%

C) 25%

D) 30%

5) Assume that investors in Google pay a 15% tax rate on income from equity and a 35% tax rate on interest income. If Google were to issue sufficient debt to reduce its corporate taxes by $1 billion per year permanently, then the value that would be created is closest to:

A) $6.1 billion

B) $10.2 billion

C) $12.2 billion

D) $14.3 billion

6) Assume that investors hold Google stock in retirement accounts that are free from personal taxes. If Google were to issue sufficient debt to reduce its taxes by $600 million per year permanently, then the amount that Google needs to borrow is closest to:

A) $14.25 billion

B) $22.00 billion

C) $24.50 billion

D) $40.75 billion

7) Assume that investors hold Google stock in retirement accounts that are free from personal taxes. If Google were to issue sufficient debt to reduce its taxes by $600 million per year permanently, then the value that would be created is closest to:

A) $6.4 billion

B) $8.6 billion

C) $9.8 billion

D) $14.3 billion

8) Assume that investors in Google pay a 15% tax rate on income from equity and a 25% tax rate on interest income. If Google were to issue sufficient debt to reduce its taxes by $600 million per year permanently, then the effective tax advantage of this debt would be closest to:

A) 10%

B) 15%

C) 25%

D) 30%

9) Assume that investors in Google pay a 15% tax rate on income from equity and a 35% tax rate on interest income. If Google were to issue sufficient debt to reduce its corporate taxes by $1 billion per year permanently, then the value that would be created is closest to:

A) $6.4 billion

B) $8.6 billion

C) $9.8 billion

D) $14.3 billion

10) Which of the following statements is FALSE?

A) The value of a firm is equal to the amount of money the firm can raise by issuing securities.

B) By reducing a firm's corporate tax liability, debt allows the firm to pay more of its cash flows to investors.

C) Equity investors must pay taxes on dividends but not capital gains.

D) For individuals, interest payments received from debt are taxed as income.

11) Which of the following statements is FALSE?

A) Personal taxes have the potential to offset some of the corporate tax benefits of leverage.

B) The actual interest tax shield depends on the reduction in the total taxes (both corporate and personal) that are paid.

C) The amount of money an investor will pay for a security ultimately depends on the benefits the investor will receive—namely, the cash flows the investor will receive before all taxes have been paid.

D) Just like corporate taxes, personal taxes reduce the cash flows to investors and diminish firm value.

12) Which of the following statements is FALSE?

A) To determine the true tax benefit of leverage, we need to evaluate the combined effect of both corporate and personal taxes.

B) A personal tax disadvantage for debt causes the WACC to decline more slowly with leverage than it otherwise would.

C) Personal taxes have an indirect effect on the firm's weighted average cost of capital.

D) In the United States and many other countries, capital gains from equity have historically been taxed more heavily than interest income.

13) Which of the following statements is FALSE?

A) Unlike taxes on capital gains or interest income, which are paid annually, taxes on dividends are paid only at the time the investor sells the stock.

B) Deferring the payment of capital gains taxes lowers the present value of the taxes, which can be interpreted as a lower effective capital gains tax rate.

C) Investors with longer holding periods or with accrued losses face a lower tax rate on equity income, decreasing the effective tax advantage of debt.

D) Investors with accrued losses that they can use to offset gains face a zero effective capital gains tax rate.

15.5 Optimal Capital Structure with Taxes

1) Which of the following statements is FALSE?

A) Even after adjusting for personal taxes, the value of an unlevered firm exceeds the value of a levered firm, and there is a tax advantage to using debt financing.

B) In Modigliani and Miller's setting of perfect capital markets, firms could use any combination of debt and equity to finance their investments without changing the value of the firm.

C) When firms raise new capital from investors, they do so primarily by issuing debt.

D) In most years aggregate equity issues are negative, meaning that firms are reducing the amount of equity outstanding by buying shares.

2) Which of the following statements is FALSE?

A) The data show a clear preference for equity as a source of external financing for the total population of U.S. firms.

B) Debt as a fraction of firm value has varied in a range from 30-45% for the average firm.

C) Capital expenditures greatly exceed firms' external financing, implying that most investment and growth is supported by internally generated funds, such as retained earnings.

D) Firms in growth industries like biotechnology or high technology carry very little debt, whereas airlines, auto makers, utilities, and financial firms have high leverage ratios.

3) Which of the following statements is FALSE?

A) Even though firms have not issued new equity, the market value of equity has risen over time as firms have grown.

B) While firms seem to prefer debt when raising external funds, not all investment is externally funded.

C) To receive the full tax benefits of leverage a firm needs to use 100% debt financing.

D) If bankruptcy is costly, these costs might offset the tax advantages of debt financing.

4) Which of the following statements is FALSE?

A) Aside from taxes, another important difference between debt and equity financing is that debt payments must be made to avoid bankruptcy, whereas firms have no similar obligation to pay dividends or realize capital gains.

B) Increasing the level of debt increases the probability of bankruptcy.

C) A firm receives a tax benefit only if it is paying taxes in the first place.

D) To the extent that a firm has other tax shields, its taxable earnings will be increased and it will rely more heavily on the interest tax shield.

5) Which of the following statements is FALSE?

A) A biotech firm might be developing drugs with tremendous potential, but it has yet to receive any revenue from these drugs. Such a firm will not have taxable earnings. In that case, a tax-optimal capital structure does not include debt.

B) No corporate tax benefit arises from incurring interest payments that regularly exceed EBIT.

C) The optimal level of leverage from a tax saving perspective is the level such that interest equals EBIT.

D) In general, as a firm's interest expense approaches its expected taxable earnings, the marginal tax advantage of debt increases, limiting the amount of equity the firm should use.

6) Which of the following statements is FALSE?

A) If there is uncertainty regarding EBIT, then with a higher interest expense there is a greater risk that interest will exceed EBIT.

B) Even for a firm with positive earnings, growth will affect the optimal leverage ratio.

C) From a tax perspective, the firm's optimal level of debt is proportional to its current earnings.

D) The optimal proportion of debt in the firm's capital structure will be higher, the higher the firm's growth rate.

7) With its current leverage, WELS Corporation will have Free Cash Flow of $4 million. If WELS corporate tax rate is 35% and it pays 8% interest on its debt, how much additional debt can WELS issue this year and still receive the benefit of the interest tax shield next year?

8) KAHR Incorporated will have EBIT this coming year of $45 million. It will also spend $18 million on total capital expenditures, increases its net working capital by $7, and have $9 million in depreciation expenses. KAHR is currently an all-equity firm with a corporate tax rate of 35% and a cost of capital of 10%. If the interest rate on new KAHR debt is 8%, how much should KAHR borrow today if they want to maximize there interest tax shield?

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**Chapter 16 Financial Distress, Managerial Incentives, and Information**

16.1 Default and Bankruptcy in a Perfect Market

1) Which of the following statements is FALSE?

A) Equity holders expect to receive dividends and the firm is legally obligated to pay them.

B) A firm that fails to make the required interest or principal payments on the debt is in default.

C) In the extreme case, the debt holders take legal ownership of the firm's assets through a process called bankruptcy.

D) After a firm defaults, debt holders are given certain rights to the assets of the firm.

2) Which of the following statements is FALSE?

A) An important consequence of leverage is the risk of bankruptcy.

B) Whether default occurs depends on the cash flows, not on the relative values of the firm's assets and liabilities.

C) Economic distress is a significant decline in the value of a firm's assets, whether or not it experiences financial distress due to leverage.

D) Modigliani and Miller's results continue to hold in a perfect market even when debt is risky and the firm may default.

*Use the information for the question(s) below.*

Monsters Incorporated (MI) in ready to launch a new product. Depending upon the success of this product, MI will have a value of either $100 million, $150 million, or $191 million, with each outcome being equally likely. The cash flows are unrelated to the state of the economy (i.e. risk from the project is diversifiable) so that the project has a beta of 0 and a cost of capital equal to the risk-free rate, which is currently 5%. Assume that the capital markets are perfect.

3) The initial value of MI's equity without leverage is closest to:

A) $133 million

B) $147 million

C) $140 million

D) $150 million

4) Suppose that MI has zero-coupon debt with a $125 million face value due next year. The initial value of MI's debt is closest to:

A) $125 million

B) $111 million

C) $100 million

D) $116 million

5) Suppose that MI has zero-coupon debt with a $125 million face value due next year. The yield to maturity of MI's debt is closest to:

A) 12.5%

B) 7.8%

C) 25.0%

D) 5.0%

6) Suppose that MI has zero-coupon debt with a $125 million face value due next year. The expected return of MI's debt is closest to:

A) 25.0%

B) 12.5%

C) 5.0%

D) 7.8%

7) Suppose that MI has zero-coupon debt with a $125 million face value due next year. The initial value of MI's equity is closest to:

A) $30 million

B) $15 million

C) $29 million

D) $24 million

8) Suppose that MI has zero-coupon debt with a $125 million face value due next year. The total value of MI with leverage is closest to:

A) $133 million

B) $140 million

C) $147 million

D) $125 million

*Use the information for the question(s) below.*

Kinston Enterprises has no debt and a debt obligation of $47 million that is due now. The market value of Kinston's assets is $102 million, and the firm has no other liabilities. Assume that capital markets are perfect and that Kinston has 5 million shares outstanding.

9) Kinston's current share price is closest to:

A) $20.40

B) $9.40

C) $11.00

D) $10.00

10) The number of new shares that Kinston must issue to raise the capital needed to pay its debt obligation is closest to:

A) 4.3 million

B) 4.7 million

C) 5.0 million

D) 4.0 million

*Use the information for the question(s) below.*

Monsters Incorporated (MI) in ready to launch a new product. Depending upon the success of this product, MI will have a value of either $100 million, $150 million, or $191 million, with each outcome being equally likely. The cash flows are unrelated to the state of the economy (i.e. risk from the project is diversifiable) so that the project has a beta of 0 and a cost of capital equal to the risk-free rate, which is currently 5%. Assume that the capital markets are perfect.

11) Suppose that MI has zero-coupon debt with a $140 million face value due next year. Calculate the value of levered equity, the value of debt, and the total value of MI with leverage.

16.2 The Costs of Bankruptcy and Financial Distress

1) Taggart Transcontinental has a value of $500 million if it continues to operate, but has outstanding debt of $600 million. If Taggart declares bankruptcy, bankruptcy costs will equal $50 million, and the remaining $450 million will go to creditors. Instead of declaring bankruptcy, Taggart proposes to exchange the firm's debt for a fraction of its equity in a workout. The minimum fraction of the firm's equity that Taggart would need to offer to its creditors for the workout to be successful is closest to:

A) 50%

B) 75%

C) 83%

D) 90%

*Use the following information to answer the question(s) below.*

Suppose that you have received two job offers. Rearden Metal offers you a contract for $75,000 per year for the next two years while Wyatt Oil offers you a contract for $90,000 per year for the next two years. Both jobs are equivalent. Suppose that Rearden Metal's contract is certain, but Wyatt Oil has a 60% chance of going bankrupt at the end of the year. In the event that Wyatt Oil files for bankruptcy, it will cancel your contract and pay you the lowest amount possible for you to not quit. If you do quit, you expect you could find an new job paying $75,000 per year, but you would be unemployed for four months while searching for this new job.

2) If you take the job with Wyatt Oil, then, in the event of bankruptcy, the least amount that Wyatt Oil would pay you next year is closest to:

A) $45,000

B) $50,000

C) $54,000

D) $75,000

3) Assuming your cost of capital is 6 percent, the present value of your expected wage if you accept Rearden Metal's offer is closest to:

A) $133,000

B) $138,000

C) $140,000

D) $144,000

4) Assuming your cost of capital is 6 percent, the present value of your expected wage if you accept Wyatt Oil's offer is closest to:

A) $138,000

B) $140,000

C) $144,000

D) $150,000

5) Assuming your cost of capital is 6 percent, based on the present value of your expected wage you should:

A) accept Rearden's offer since the PV of your expected wage would be approximately $6000 higher.

B) accept Rearden's offer since the PV of your expected wage would be approximately $8000 lower.

C) accept Rearden's offer since the PV of your expected wage would be approximately $8000 higher.

D) accept Wyatt's offer since the PV of your expected wage would be approximately $6000 higher.

6) Which of the following statements is FALSE?

A) When a firm fails to make a required payment to debt holders, it is in bankruptcy.

B) With perfect capital markets, the riskof bankruptcy is not a disadvantage of debt—bankruptcy simply shifts the ownership of the firm from equity holders to debt holders without changing the total value available to all investors.

C) Bankruptcy is a long and complicated process that imposes both direct and indirect costs on the firm and its investors that the assumption of perfect capital markets ignores.

D) Bankruptcy is rarely simple and straightforward—equity holders don't just "hand the keys" to debt holders the moment the firm defaults on a debt payment.

7) Which of the following statements is FALSE?

A) The U.S. bankruptcy code was created to organize this process so that creditors are treated fairly and the value of the assets is not needlessly destroyed.

B) Because the assets of the firm might be more valuable if kept together, creditors seizing assets in a piecemeal fashion might destroy much of the remaining value of the firm.

C) Debt holders can then take legal action against the firm to collect payment by seizing the firm's assets.

D) Because most firms have multiple creditors, coordination makes it difficult to guarantee that each creditor will be treated fairly.

8) Which of the following statements is FALSE?

A) According to the provisions of the 1978 Bankruptcy Reform Act, U.S. firms can file for two forms of bankruptcy protection: Chapter 11 or Chapter 13.

B) The Chapter 11 reorganization plan specifies the treatment of each creditor of the firm. In addition to cash payment, creditors may receive new debt or equity securities of the firm. The value of cash and securities is generally less than the amount each creditor is owed, but more than the creditors would receive if the firm were shut down immediately and liquidated.

C) In the more common form of bankruptcy for large corporations, Chapter 11 reorganization, all pending collection attempts are automatically suspended, and the firm's existing management is given the opportunity to propose a reorganization plan.

D) While developing a Chapter 11 reorganization plan, management continues to operate the business.

9) Which of the following statements is FALSE?

A) The creditors must vote to accept the Chapter 11 reorganization plan, and the bankruptcy court must approve it. If an acceptable plan is not put forth, the court may ultimately force a Chapter 7 liquidation of the firm.

B) In Chapter 13 liquidation, a trustee is appointed to oversee the liquidation of the firm's assets through an auction. The proceeds from the liquidation are used to pay the firm's creditors, and the firm ceases to exist.

C) When a corporation becomes financially distressed, outside professionals, such as legal and accounting experts, consultants, appraisers, auctioneers, and others with experience selling distressed assets, are generally hired.

D) In the case of Chapter 11 reorganization, creditors must often wait several years for a reorganization plan to be approved and to receive payment.

10) Which of the following statements is FALSE?

A) Whether paid by the firm or its creditors, the indirect costs of bankruptcy increase the value of the assets that the firm's investors will ultimately receive.

B) In addition to the money spent by the firm, the creditors may incur costs during the bankruptcy process.

C) The bankruptcy code is designed to provide an orderly process for settling a firm's debts.

D) To ensure that their rights and interests are respected, and to assist in valuing their claims in a proposed reorganization, creditors may seek separate legal representation and professional advice.

11) Which of the following statements is FALSE?

A) The direct costs of bankruptcy are likely to be higher for firms with more complicated business operations and for firms with larger numbers of creditors, because it may be more difficult to reach agreement among many creditors regarding the final disposition of the firm's assets.

B) In a prepackaged bankruptcy(or "prepack") a firm will first develop a reorganization plan with the agreement of its main creditors, and thenfile Chapter 7 to implement the plan and pressure any creditors who attempt to hold out for better terms.

C) A study of Chapter 7 liquidations of small businesses found that the average direct costs of bankruptcy were 12% of the value of the firm's assets.

D) Studies typically report that the average direct costs of bankruptcy are approximately 3% to 4% of the pre-bankruptcy market value of total assets.

12) Which of the following statements is FALSE?

A) Although indirect costs of bankruptcy are difficult to measure accurately, they are typically much smaller than the direct costs of bankruptcy.

B) Bankruptcy protection can be used by management to delay the liquidation of a firm that should be shut down.

C) Because many aspects of the bankruptcy process are independent of the size of the firm, the costs are typically higher, in percentage terms, for smaller firms.

D) Aside from the direct legal and administrative costs of bankruptcy, many other indirect costs are associated with financial distress (whether or not the firm has formally filed for bankruptcy).

13) Which of the following statements is FALSE?

A) The costs of selling assets below their value are greatest for firms with assets that lack competitive, liquid markets.

B) Firms in financial distress tend to have difficulty collecting money that is owed to them.

C) Suppliers may be unwilling to provide a firm with inventory if they fear they will not be paid.

D) The loss of customers is likely to be large for producers of raw materials (such as sugar or aluminum), as the value of these goods, once delivered, depends on the seller's continued success.

16.3 Financial Distress Costs and Firm Value

1) Which of the following statements is FALSE?

A) Debt holders are not foolish—they recognize that when the firm defaults, they will not be able to get the full value of the assets. As a result, they will pay less for the debt initially.

B) The costs of financial distress represent an important departure from Modigliani and Miller's assumption of perfect capital markets.

C) Levered firms risk incurring financial distress costs that reduce the cash flows available to investors.

D) When securities are fairly priced, the original shareholders of a firm pay the future value of the costs associated with bankruptcy and financial distress.

*Use the information for the question(s) below.*

Monsters Incorporated (MI) in ready to launch a new product. Depending upon the success of this product, MI will have a value of either $100 million, $150 million, or $191 million, with each outcome being equally likely. The cash flows are unrelated to the state of the economy (i.e. risk from the project is diversifiable) so that the project has a beta of 0 and a cost of capital equal to the risk-free rate, which is currently 5%. Assume that the capital markets are perfect.

2) Assuming that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs, the initial value of MI's equity without leverage is closest to:

A) $150 million

B) $147 million

C) $140 million

D) $133 million

3) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $125 million face value due next year. The initial value of MI's debt is closest to:

A) $110 million

B) $105 million

C) $125 million

D) $111 million

4) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $125 million face value due next year. The yield to maturity of MI's debt is closest to:

A) 13.75%

B) 5.00%

C) 19.25%

D) 12.50%

5) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $125 million face value due next year. The initial value of MI's equity is closest to:

A) $30 million

B) $29 million

C) $15 million

D) $24 million

6) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $125 million face value due next year. The total value of MI with leverage is closest to:

A) $140 million

B) $100 million

C) $125 million

D) $134 million

7) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $125 million face value due next year. The present value of MI's financial distress costs is closest to:

A) $20.0 million

B) $6.6 million

C) $6.3 million

D) $19.0 million

8) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs. Suppose that at the start of the year, MI has no debt outstanding, but has 5.6 million shares of stock outstanding. If MI does not issue debt, its share price is closest to:

A) $5.15

B) $23.75

C) $23.90

D) $25.00

9) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs. Suppose that at the start of the year, MI has no debt outstanding, but has 5.6 million shares of stock outstanding. If MI issues debt of $125 million due next year and uses the proceeds to repurchase shares, the share price following the announcement of the repurchase will be closest to:

A) $23.90

B) $23.75

C) $25.00

D) $5.15

10) Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a $140 million face value due next year. Calculate the value of levered equity, the value of debt, and the total value of MI with leverage.

16.4 Optimal Capital Structure: The Trade-off Theory

*Use the following information to answer the question(s) below.*

d'Anconia Copper is considering issuing one year debt, and has come up with the following estimates of the value of the interest tax shield and the probability of distress for different levels of debt: 

1) If in the event of distress, the present value of distress costs is equal to $10 million, then the optimal level of debt for d'Anconia Copper is:

A) $25 million

B) $50 million

C) $60 million

D) $70 million

2) If in the event of distress, the present value of distress costs is equal to $5 million, then the optimal level of debt for d'Anconia Copper is:

A) $25 million

B) $50 million

C) $60 million

D) $70 million

3) If in the event of distress, the present value of distress costs is equal to $25 million, then the optimal level of debt for d'Anconia Copper is:

A) $50 million

B) $60 million

C) $70 million

D) $80 million

4) Which of the following statements is FALSE?

A) The tradeoff theoryweighs the costs of debt that result from shielding cash flows from taxes against the benefits from the effects of financial distress associated with leverage.

B) Leverage has costs as well as benefits.

C) According to the tradeoff theory, the total value of a levered firm equals the value of the firm without leverage plus the present value of the tax savings from debt, less the present value of financial distress costs.

D) Firms have an incentive to increase leverage to exploit the tax benefits of debt. But with too much debt, they are more likely to risk default and incur financial distress costs.

5) Which of the following statements is FALSE?

A) Calculating the precise present value of financial distress costs is a relatively straightforward process.

B) Two key qualitative factors determine the present value of financial distress costs: (1) the probability of financial distress and (2) the magnitude of the costs after a firm is in distress.

C) Technology firms are likely to incur high costs when they are in financial distress, due to the potential for loss of customers and key personnel, as well as a lack of tangible assets that can be easily liquidated.

D) The magnitude of the financial distress costs will depend on the relative importance of the sources of these costs and is likely to vary by industry.

6) Which of the following statements is FALSE?

A) Real estate firms are likely to have low costs of financial distress, as much of their value derives from assets that can be sold relatively easily.

B) For low levels of debt, the risk of default remains low and the main effect of an increase in leverage is an increase in the interest tax shield, which has present value *τ*\**D,* where *τ*\* is the effective tax advantage of debt.

C) Firms whose value and cash flows are very volatile (for example, semiconductor firms) must have much higher levels of debt to avoid a significant risk of default.

D) The probability of financial distress depends on the likelihood that a firm will be unable to meet its debt commitments and therefore default.

7) Which of the following statements is FALSE?

A) Firms with steady, reliable cash flows, such as utility companies, are able to use high levels of debt and still have a very low probability of default.

B) If there were no costs of financial distress, the value of the firm would continue to increase with increasing debt until the interest on the debt exceeds the firm's earnings before interest and taxes and the tax shield is exhausted.

C) The costs of financial distress reduce the value of the levered firm, *VL*. The amount of the reduction decreases with the probability of default, which in turn increases with the level of the debt *D*.

D) The tradeoff theory states that firms should increase their leverage until it reaches the level *D*\* for which *VL* is maximized.

8) Which of the following statements is FALSE?

A) The presence of financial distress costs can explain why firms choose debt levels that are too high to fully exploit the interest tax shield.

B) With higher costs of financial distress, it is optimal for the firm to choose lower leverage.

C) Differences in the magnitude of financial distress costs and the volatility of cash flows can explain the differences in the use of leverage across industries.

D) At the point *D*\*, where *VL* is maximized, the tax savings that result from increasing leverage are just offset by the increased probability of incurring the costs of financial distress.

9) Which of the following industries is likely to have the lowest costs of financial distress?

A) Airlines

B) Computer software

C) Biotechnology

D) Electric utilities

10) Which of the following industries likely to have the highest costs of financial distress?

A) Grocery store

B) Semiconductors

C) Real estate

D) Utilities

16.5 Exploiting Debt Holders: The Agency Costs of Leverage

*Use the following information to answer the question(s) below.*

Nielson Motors has a debt-equity ratio of 1.8, an equity beta of 1.6, and a debt beta of 0.20. It is currently evaluating the following projects, none of which would change Nielson's volatility.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project** | **1** | **2** | **3** | **4** | **5** |
| Investment | 100 | 75 | 120 | 60 | 80 |
| NPV | 23 | 12 | 18 | 15 | 14 |

(All amounts are in $millions.)

1) Nielson Motors should accept those projects with profitability ratios greater than:

A) 0.15

B) 0.175

C) 0.20

D) 0.225

2) Which of the following projects should Nielson Motors accept?

A) 1 only

B) 1, 2, and 3 only

C) 1 and 4 only

D) 2, 3, and 5 only

3) The total debt overhang associated with accepting project 1, is closest to:

A) $0 million

B) $12.5 million

C) $14.4 million

D) $22.5 million

4) The total debt overhang associated with accepting project 4, is closest to:

A) $0 million

B) $13.5 million

C) $15.0 million

D) $38.6 million

5) In order for Nielson Motor's to be willing to invest, project 5 must have an NPV greater than:

A) $10.0 million

B) $12.5 million

C) $18.0 million

D) $22.5 million

6) In order for Nielson Motor's to be willing to invest, project 3 must have an NPV greater than:

A) $12.5 million

B) $15.0 million

C) $22.5 million

D) $27.0 million

7) If Nielson Motors invests in only those projects which are beneficial to the stockholders, then the total debt overhang associated with accepting these project(s) is closest to:

A) $22.5 million

B) $36.0 million

C) $38.0 million

D) $57.5 million

8) Which of the following statements is FALSE?

A) When a firm faces financial distress, creditors can gain by making sufficiently risky investments, even if they have negative NPV.

B) When a firm has leverage, a conflict of interest exists if investment decisions have different consequences for the value of equity and the value of debt.

C) In some circumstances, managers may take actions that benefit shareholders but harm the firm's creditors and lower the total value of the firm.

D) Agency costs are costs that arise when there are conflicts of interest between stakeholders.

9) Which of the following statements is FALSE?

A) When a firm faces financial distress, shareholders have an incentive not to invest and to withdraw money from the firm if possible.

B) Because top managers often hold shares in the firm and are hired and retained with the approval of the board of directors, which itself is elected by shareholders, managers will generally make decisions that increase the value of the firm's equity.

C) An over-investment problem occurs when shareholders have an incentive to invest in risky positive-NPV projects.

D) A negative-NPV project destroys value for the firm overall.

10) Which of the following statements is FALSE?

A) The agency costs of debt can arise only if there is no chance the firm will default and impose losses on its debt holders.

B) Agency costs represent another cost of increasing the firm's leverage that will affect the firm's optimal capital structure choice.

C) An under-investment problem occurs when shareholders choose to not invest in a positive-NPV project.

D) When a firm faces financial distress, it may choose not to finance new, positive-NPV projects.

11) Which of the following statements is FALSE?

A) Creditors often place restrictions on the actions that the firm can take. Such restrictions are referred to as debt covenants.

B) Covenants are often designed to prevent management from exploiting debt holders, so they may help to reduce agency costs.

C) Agency costs are smallest for long-term debt.

D) Covenants may limit the firm's ability to pay large dividends or the types of investments that the firm can make.

*Use the information for the question(s) below.*

JR Industries has a $20 million loan due at the end of the year and under its current business strategy its assets will have a market value of only $15 million when the loan comes due. JR is considering a new much riskier business strategy. While this new riskier strategy can be implemented using JR's existing assets without any additional investment, the new strategy has only a 40% probability of succeeding. If the new strategy is a success, the market value of JR's assets will be $30, but if the strategy fails the assets will be worth only $5 million.

12) What is the overall expected payoff under JR's new riskier business strategy?

A) $4 million

B) $11 million

C) $20 million

D) $15 million

13) What is the expected payoff to debt holders under JR's new riskier business strategy?

A) $20 million

B) $4 million

C) $15 million

D) $11 million

14) What is the expected payoff to equity holders under JR's new riskier business strategy?

A) $15 million

B) $11 million

C) $20 million

D) $4 million

16.6 Motivating Managers: The Agency Benefits of Leverage

1) Which of the following statements is FALSE?

A) One disadvantage of using leverage is that it does not allow the original owners of the firm to maintain their equity stake.

B) The separation of ownership and control creates the possibility of management entrenchment; facing little threat of being fired and replaced, managers are free to run the firm in their own best interests.

C) Managers also have their own personal interests, which may differ from those of both equity holders and debt holders.

D) The costs of reduced effort and excessive spending on perks are another form of agency cost.

2) Which of the following statements is FALSE?

A) A serious concern for large corporations is that managers may make large, unprofitable investments.

B) While overspending on personal perks may be a problem for large firms, these costs are likely to be small relative to the overall value of the firm.

C) Some financial economists explain a manager's willingness to engage in negative-NPV investments as empire building.

D) While ownership is often diluted for small, young firms, ownership typically becomes concentrated over time as a firm grows.

3) Which of the following statements is FALSE?

A) Leverage can reduce the degree of managerial entrenchment because managers are more likely to be fired when a firm faces financial distress.

B) When a firm is highly levered, creditors themselves will closely monitor the actions of managers, providing an additional layer of management oversight.

C) According to the empire building hypothesis, leverage increases firm value because it commits the firm to making future interest payments, thereby reducing excess cash flows and wasteful investment by managers.

D) Managers of large firms tend to earn higher salaries, and they may also have more prestige and garner greater publicity than managers of small firms. As a result, managers may expand (or fail to shut down) unprofitable divisions, pay too much for acquisitions, make unnecessary capital expenditures, or hire unnecessary employees.

*Use the information for the question(s) below.*

You own your own firm and you need to raise $50 million to fund an expansion. Following the expansion, your firm will be worth $75 million in its unlevered form. You want to go ahead with the expansion, but you are concerned that you may not be able to maintain ownership of over 50% of your firm's equity. In other words, you are concerned that if you use equity to finance the expansion, you may lose control of your firm.

4) Assume that capital markets are perfect, you issue $30 million in new debt, and you issue $20 million in new equity. You ownership stake in the firm following these new issues of debt and equity is closest to:

A) 58%

B) 50%

C) 33%

D) 55%

5) Assume that capital markets are perfect, you issue $25 million in new debt, and you issue $25 million in new equity. Your ownership stake in the firm following these new issues of debt and equity is closest to:

A) 50%

B) 55%

C) 58%

D) 33%

6) Assume that capital markets are perfect except for the existence of corporate taxes. Your firm pays 40% of earnings in taxes and you decide to issue $25 million in new debt and $25 million in new equity. Your ownership stake in the firm following these new issues of debt and equity is closest to:

A) 58%

B) 55%

C) 33%

D) 50%

7) Assume that capital markets are perfect except for the existence of corporate taxes and that your firm pays 40% of earnings in taxes. If you want to maintain ownership of at least a 50%, then the minimum amount of debt that you must issue to fund the expansion is closest to:

A) $19 million

B) $18 million

C) $16 million

D) $20 million

8) Assume that capital markets are perfect except for the existence of corporate taxes and that your firm pays 35% of earnings in taxes. If you want to maintain ownership of at least a 50%, then calculate the minimum amount of debt that you must issue to fund the expansion.

16.7 Agency Costs and the Trade-off Theory

*Use the following information to answer the question(s) below.*

If managed effectively, Rearden Metal will have assets with a market value of $200 million, $300 million, or $400 million next year, with each outcome being equally likely. Managers, however, may decided to engage in wasteful empire building, which will reduce Rearden's market value by $20 million in all cases. Managers may also increase the risk of the firm, changing the probability of each outcome to 50%, 5%, and 45% respectively.

1) What is the expected value of Rearden's assets if it were run efficiently?

A) $265 million

B) $280 million

C) $295 million

D) $300 million

2) Suppose that the managers at Rearden Metal will engage in empire building unless that behavior increases the likelihood of bankruptcy. If Rearden has $180 million in debt due in one year, then the expected value of Rearden's assets is closest to:

A) $265 million

B) $280 million

C) $295 million

D) $300 million

3) Suppose that the managers at Rearden Metal will engage in empire building unless that behavior increases the likelihood of bankruptcy. If Rearden has $190 million in debt due in one year, then the expected value of Rearden's assets is closest to:

A) $265 million

B) $280 million

C) $295 million

D) $300 million

4) Suppose that the managers at Rearden Metal will increase risk to maximize the expected payoff to equity holders. If Rearden has $180 million in debt due in one year, then the expected value of Rearden's assets is closest to:

A) $280 million

B) $295 million

C) $300 million

D) $900 million

5) Suppose that the managers at Rearden Metal will increase risk to maximize the expected payoff to equity holders. If Rearden has $230 million in debt due in one year, then the expected value of Rearden's assets are closest to:

A) $280 million

B) $295 million

C) $300 million

D) $900 million

6) Which of the following statements is FALSE?

A) The optimal level of debt *D*\*, balances the costs and benefits of leverage.

B) As the debt level increases, the firm benefits from the interest tax shield (which has present value *τ*\**D*).

C) If the debt level is too large firm value is reduced due to the loss of tax benefits (when interest exceeds EBIT), financial distress costs, and the agency costs of leverage.

D) As the debt level increases, the firm faces worse incentives for management, which increase wasteful investment and perks.

7) Which of the following statements is FALSE?

A) Firms with high R&D costs and future growth opportunities typically maintain high debt levels.

B) The tradeoff theory explains how firms should choose their capital structures to maximize value to current shareholders.

C) With tangible assets, the financial distress costs of leverage are likely to be low, as the assets can be liquidated for close to their full value.

D) Proponents of the management entrenchment theoryof capital structure believe that managers choose a capital structure to avoid the discipline of debt and maintain their own job security.

8) Which of the following firms is likely to maintain low levels of debt?

A) An electric utility

B) A tobacco company

C) An Internet firm

D) A mature restaurant chain

*Use the information for the question(s) below.*

If it is managed efficiently, Luther industries will have assets with market value of $100 million, $300, million, or $500 million next year, with each outcome being equally likely. Managers may, however, engage in wasteful empire building which will reduce the firm's market value by $20 million in all cases. Managers may also increase the risk of the firm, changing the probability of each outcome to 50%, 20%, and 30% respectively.

9) If it is managed efficiently, then the expected market value of Luther's assets is closest to:

A) $300 million

B) $260

C) $240

D) $280 million

10) If its managers engage in empire building, then the expected market value of Luther's assets is closest to:

A) $260

B) $280 million

C) $240

D) $300 million

11) If its managers increase the risk of the firm, then the expected market value of Luther's assets is closest to:

A) $260

B) $240

C) $300 million

D) $280 million

16.8 Asymmetric Information and Capital Structure

1) The idea that managers who perceive the firm's equity is under-priced will have a preference to fund investment using retained earnings, or debt, rather than equity is known as the:

A) signaling theory of debt.

B) lemons principle.

C) pecking order hypothesis.

D) credibility principle.

2) The idea that claims in one's self-interest are credible only if they are supported by actions that would be too costly to take if the claims were untrue is known as the:

A) pecking order hypothesis.

B) credibility principle.

C) lemons principle.

D) signaling theory of debt.

3) The idea that when a seller has private information about the value of good, buyers will discount the price they are willing to pay due to adverse selection is known as the:

A) pecking order hypothesis.

B) signaling theory of debt.

C) lemons principle.

D) credibility principle.

*Use the information for the question(s) below.*

Electronic Gaming Incorporated (EGI) is a firm with no debt and its 20 million shares are currently trading for $16 per share. Based on the prospects for EGI's new hand held video game, management feels the true value of the firm is $20 per share. Management believes that the share price will reflect this higher value after the video game is released next fall. EGI has already announced plans to raise $100 million from investors to build a new factory.

4) Assume that EGI decides to raise the $100 million through the issuance of new shares prior to the release of the new video game. The number of new shares that EGI will issue is closest to:

A) 5.0 million

B) 6.25 million

C) 10 million

D) 1.6 million

5) Assume that EGI decides to wait until after the release of the new video game before they raise the $100 million through the issuance of new shares. The number of new shares that EGI will issue is closest to:

A) 1.6 million

B) 5.0 million

C) 10 million

D) 6.25 million

6) Assume that EGI decides to raise the $100 million through the issuance of new shares prior to the release of the new video game. EGI's share price following the release of the new video game will be closest to:

A) $18.00

B) $19.00

C) $20.00

D) $16.00

7) Assume that EGI decides to wait until after the release of the new video game before they raise the $100 million through the issuance of new shares. EGI's share price following the release of the new video game will be closest to:

A) $18.00

B) $20.00

C) $16.00

D) $19.00

16.9 Capital Structure: The Bottom Line

1) Which of the following statements is FALSE?

A) The most important insight regarding capital structure goes back to Modigliani and Miller: With perfect capital markets, a firm's security choice alters the risk of the firm's equity, but it does not change its value or the amount it can raise from outside investors.

B) When agency costs are significant, short-term debt may be the most attractive form of external financing.

C) Too much debt can motivate managers and equity holders to take excessive risks or over-invest in a firm.

D) Of all the different possible imperfections that drive capital structure, the most clear-cut, and possibly the most significant, is taxes.

2) Which of the following influences a firm's choice of capital structure?

A) Taxes

B) Agency costs and benefits of leverage

C) Signaling and adverse selection

D) All of the above influence capital structure decisions.

3) Which of the following is unlikely to influence a firm's choice of capital structure?

A) Taxes

B) Agency costs and benefits of leverage

C) Transaction costs

D) All of the above influence capital structure decisions.