LO.a: Describe regular cash dividends, extra dividends, liquidating dividends, stock dividends, stock splits, and reverse stock splits, including their expected effect on shareholders' wealth and a company's financial ratios.

1. The following data is available for PL Manufacturers:

	2013	**2012**
Net Income	32.6	28.3
Issued Share Capital	150	150
Accumulated Retained Earnings		15.2

   The retention ratio for the company earnings has remained constant at 65% while the rest is given out as dividends to shareholders. Given the above data, the 2013 accumulated retained earnings is *closest* to:
   A. 21.19.
   B. 26.61.
   C. 36.39.

2. K-Electric Power Company is a power generation company, while Procter and Gamble is a consumer products company and Toyota Motors is an automobile manufacturing company. Which of the following is *most likely* to issue special dividends for sharing profits with shareholders in times of profitability, but conserve cash otherwise?
   A. K-Electric Power Company.
   B. Procter and Gamble.
   C. Toyota Motors.

3. Which of the following is *most likely* to decrease the market value of a firm?
   A. A stock dividend.
   B. A special dividend.
   C. A stock split.

4. In the previous year, a company had earnings of 100 million and retained 80 million. The payout ratio was:
   A. 80%.
   B. 20%.
   C. 50%.

5. Alan D'Cruz owns 50,000 shares of Matrix Manufacturing Company at the prevailing market price of Rs.149.5 per share. Matrix declares a 15% stock dividend to all shareholders as per record as of 31^{st} December. The market price of the stock and D'Cruz ownership value in the company given the following information is *closest* to:

Shares outstanding	1 billion
Earnings per share (EPS)	Rs. 6.9

   A. Rs. 149.5 and Rs. 7.5 million respectively.
   B. Rs. 130 and Rs. 8.6 million respectively.
   C. Rs. 130 and Rs. 7.5 million respectively.

6. Santa Inc.'s common shares currently trade at a very low price and there is a risk of the company being delisted from the stock exchange. Which of the following would be the *most appropriate* action to consider?
   A. Stock dividend.
   B. Reverse stock split.
   C. Stock split.

7. While planning company prospects, Sanjay made two statements:
   Statement 1: "A significant apprehension of implementing a stock split is that it increases the company's price-to-earnings ratio."
   Statement 2: "A stock dividend will increase share price, given all the other factor remain constant."
   Are these two statements about the effects of the stock dividend and stock split correct?
   A. Yes for Statement 1 and no for Statement 2.
   B. Yes for Statement 2 and no for Statement 1.
   C. No for both statements.

8. Stock splits and stock dividends are *most likely* to:
   A. increase the debt/equity ratio.
   B. have no impact on the debt/equity ratio.
   C. decrease the debt/equity ratio.

9. In a sales-driven pro forma analysis, net income grows from $1.58 million to $1.74 million. Assuming a dividend payout ratio of 50%, the increase in retained earnings is *closest* to (in $ millions):
   A. 0.79.
   B. 0.87.
   C. 0.91.

10. DeltaCom Company's taxable income is 21.2% of sales. Assuming taxes of 33% and a dividend payout of 50%, the net profit margin is *closest* to:
    A. 12.65%.
    B. 14.20%.
    C. 16.28%.

11. A two-for-one stock split will *most likely* impact the:
    A. earnings per share.
    B. price to earnings ratio.
    C. dividend payout ratio.

LO.b: Describe dividend payment chronology, including the significance of declaration, holder-of-record, ex-dividend, and payment dates.

12. On 15 May 2014, Company A reported to pay a dividend of € 1.10 per share in May 2014. The ex-dividend date is 19 May and payment date is 22 June. An investor who wants to receive the dividends should buy the shares by:

A. 19 May.
B. 22 June.
C. 18 May.

13. Supers Controlisque recently declared a quarterly dividend of $1.13 payable on Thursday, March 6, to holders of record on Friday, February 21. What is *most likely* to be the last day an investor could purchase Supers' stock and still receive the quarterly dividend?
    A. February 18.
    B. February 23.
    C. February 21.

14. Copper Suite has recently declared a regular quarterly dividend of Rs.2, payable on 10 March, with an ex-dividend date of 26 February. Given the following options include all business days, which of the following is *most likely* to be the holder-of-record date assuming trades settle three business days after the trade date?
    A. 25 February.
    B. 28 February.
    C. 9 March.

15. The purchaser of a stock will receive the upcoming dividend, if the stock is purchased before the:
    A. holder-of-record date.
    B. ex-dividend date.
    C. declaration date.

LO.c: Compare share repurchase methods.

16. A company decides to repurchase stock by making an offer to repurchase a specific number of shares at a price that is higher than the current market price. This is *most likely* referred to as a:
    A. tender offer.
    B. premium offer.
    C. first-rate offer.

17. Fugi firm announces a share repurchase initiating it by communicating to shareholders a specific number of 500,000 shares and a range of acceptable prices from $50 to$70. This is *most likely* to be a(n):
    A. fixed price tender offer.
    B. open market repurchase.
    C. Dutch auction.

18. A company wants to repurchase shares while avoiding a lengthy procedure for it. The method of repurchase that the company would *least likely* adopt due to the long execution time is:
    A. Dutch auction.
    B. fixed price tender offer.

C. open market repurchase.

19. A company is deciding to repurchase 10 million shares of stock that has a current price of $99. The forecasted information of shares available for purchase is presented below.

Price	Number of Shares Available for Purchase (in millions)
$100.00	18.00
$99.80	10.00
$99.60	6.00
$99.40	2.00
$99.20	1.00
$99.00	1.00

Which of the following repurchase methods will *most likely* result in the average repurchased cost being $99.60?

A. Open market repurchase.
B. Repurchase by direct negotiation.
C. Dutch auction.

LO.d: Calculate and compare the effect of a share repurchase on earnings per share when 1) the repurchase is financed with the company's excess cash and 2) the company uses debt to finance the repurchase.

20. A firm's price-to-earnings ratio (P/E) is 10.5. The firm has decided to repurchase shares using external funds that have an after-tax cost of 6%. After the repurchase, the earnings per share (EPS) will *most likely*:

A. increase.
B. decrease.
C. remain unchanged.

21. The following information is available for a firm:
Number of shares outstanding: 2 million
Tax rate: 40%
Cost of debt (pretax): 8%
Current stock price: $25.00
Net income: $4 million
A plan to repurchase $1 million worth of shares using debt will *most likely* cause the earnings per share to:

A. decrease.
B. increase.
C. remain unchanged.

22. A firm's P/E ratio is 8.7. It decides to repurchase shares using external funds. The *maximum* after tax cost of the funds which results in EPS not declining will be:

A. 8.7%.
B. 10.2%.

C. 11.5%.

23. Gregor, Inc., (GRE) plans to repurchase shares using borrowed funds. The following information is compiled from the financial statements of the firm:
    - Share price at the time of buyback = \$40
    - Shares outstanding before buyback = 80 million
    - EPS before buyback = \$4.76
    - Earnings yield = \$4.76/ \$40 = 11.9%
    - After-tax cost of borrowing = 9%
    - Planned buyback = 0.75 million shares

    The EPS after the buyback is *closest* to:
    A. \$4.56.
    B. \$4.77.
    C. \$5.03.

24. Share repurchase using borrowed funds will:
    A. increase EPS if the cost of debt is greater than the earnings yield.
    B. decrease EPS if the cost of debt is less than the earnings yield.
    C. decrease EPS if the cost of debt is greater than the earnings yield.

25. A company with 2 million shares outstanding and earnings of \$4 million decides to use \$20 million in idle cash to repurchase shares in the open market. The company's shares are trading at \$100 per share. If the company uses the whole amount of idle cash to repurchase shares at the market price, the company's earnings per share will be closest to:
    A. 1.11.
    B. 2.00.
    C. 2.22.

26. Cuzen Corp plans to borrow funds in order to repurchase 200,000 shares. The following information is available:

Shares outstanding before buyback	4.7 million
Earnings per share before buyback	\$5.5
Share price at time of buyback	\$65
After-tax cost of borrowing	6%

    The EPS after the buyback is *closest* to:
    A. \$4.73.
    B. \$5.12.
    C. \$5.57.

27. What is the *most likely* impact on earnings per share (EPS) if borrowed funds are used to finance a share repurchase where the after-tax cost of debt is greater than the earnings yield?
    A. EPS decreases.
    B. EPS increases.

C. EPS stays constant.

LO.e: Calculate the effect of a share repurchase on book value per share.

28. The market price of a company's share is $11 per share with a price-to-book value of 0.80. It has 20 million shares outstanding and announces a buyback of 10% of its shares. If the buyback is done at $11 per share, the post-buyback book value per share is *closest* to:
    A. $10.
    B. $11.
    C. $14.

29. Techo Ltd. and Windows Inc. are operating in the same industry.

	Techo Ltd.	**Windows Inc.**
Share Price	$53	$53
Shares outstanding before buyback	12 million	12 million
Book Value	$475million	$950 million

Both companies announce a $5 million share buyback. Which of the following statements is most likely true about the book value per share (BVPS) for the two companies?
    A. The BVPS does not change for either company.
    B. The BVPS increases for Techno but decreases for Windows.
    C. The BVPS increases for Windows but decreases for Techo.

30. The market price of a company's stock is $5 per share with 100 million shares outstanding. The company decides to use its cash reserves to undertake a $20 million share buyback. Just prior to the buyback, the company reports total assets of $1300 million and total liabilities of $900 million. The company's book value per share after the share buyback is *closest* to:
    A. $3.96.
    B. $4.25.
    C. $3.60.

LO.f: Explain why a cash dividend and a share repurchase of the same amount are equivalent in terms of the effect on shareholders' wealth, all else being equal.

31. The following information is extracted from the financial statements and reports of Meds Inc. (Med):

Shares outstanding	35 million
Current market value	$65 per share
Profit made in FY Q4 ended Dec, 2013	$125 million

The company is considering two methods for returning cash to shareholders:
- Pay a cash dividend of $40 million / 35 million shares = $1.143 per share.
- Repurchase $40 million worth of common stock.

Assuming the same tax rate for dividends and capital gains, shareholder wealth will *most likely*:

A. decrease in case of repurchase but increase if cash dividend is paid.
B. increase for both options.
C. remain unaffected in both cases.

32. Sparks Ltd. faces a choice to either repurchase shares at the current market price with its positive cash flows or use that amount to pay a special cash dividend. Shareholders' wealth under the two options will be equivalent unless the:
    A. company's book value per share is greater than the current market price.
    B. tax consequences for each choice are dissimilar.
    C. company's book value per share is less than the current market price.

33. Assume that a company is based in a country that has no taxes on dividends or capital gains. If the company considers either paying a special dividend or repurchasing its own shares, which of the following will the company shareholders *most likely* prefer?
    A. Greater wealth if the company paid a special cash dividend.
    B. Greater wealth if the company repurchased its shares.
    C. Constant wealth under either a cash dividend or share repurchase program.

34. Analyst 1: All else equal, a cash dividend increases shareholder wealth as compared to a share repurchase of the same amount.
    Analyst 2: All else equal, a share repurchase increases shareholder wealth as compared to a cash dividend of the same amount.
    Which analyst's statement is *most likely* correct?
    A. Analyst 1.
    B. Analyst 2.
    C. Neither.

Solutions

1. C is correct.
   Increase in retained earnings = Retention ratio $*$ Net income= $0.65 * 32.6$ = 21.19
   Total retained earnings balance = 21.19 + 15.2 = 36.39.

2. C is correct. Many cyclical firms (e.g., automakers) will use a special dividend to share profits with shareholders when times are good but maintain the flexibility to conserve cash when profits are down.

3. B is correct. With an irregular dividend a company pays cash and the share price drops. The total number of shares outstanding remains the same. Hence the market value (share price x number of shares outstanding) comes down. With the other two options, the number of shares increases and the share price decrease. The overall market value, however, remains the same.

4. B is correct. The payout ratio is 20%.

5. C is correct.
   $$\text{Stock price } = \frac{\text{Rs. } 149.5}{1.15} = \text{ Rs. } 130$$
   $$\text{Ownership value} = \text{ Shares owned} * \text{Stock price}$$
   $$= (50{,}000 * 1.15) * \text{ Rs. } 130 = \text{ Rs. } 7{,}475{,}000$$

6. B is correct. A reverse stock split would increase the price per share of the stock.

7. C is correct. A stock dividend will decrease the price per share. A stock split will reduce the price and earnings per share proportionately, leaving the price-to-earnings ratio constant.

8. B is correct. Stock splits and stock dividends do not impact financial ratios.

9. B is correct. The retained earnings in a pro forma analysis increases by net income less dividends:
   Dividend $=$ Net income $*$ Dividend payout ratio = \$1.74 million $*$ 50% = 0.87 million
   Increase in retained earnings = \$1.74 million $-$ \$0.87 million = 0.87 million

10. B is correct. Net profit margin = $\frac{\text{Net income}}{\text{Sales}} = \frac{\left[(\text{Earnings before tax}) * \left(1 - (\text{Tax rate})\right)\right]}{\text{Sales}}$
    $= (0.212 * \text{Sales}) * \frac{1 - 0.33}{\text{Sales}} = 0.212 * (1 - 0.33) = 14.20\%$

11. A is correct. A two-for-one stock split will double the number of shares, thus reducing the EPS to half of its pre-split value. P/E will remain unchanged because the price also reduces by half and exactly cancels out the effect of the reduced EPS. The dividend payout ratio remains unchanged because the same proportion of earnings will still be used after the split.

12. C is correct. Before the ex-dividend date.

13. A is correct. If an investor purchases shares of stock on or after the ex-dividend date, the dividend will not be paid. The ex-dividend day is always two business days before the holder-of-record date and hence stock must be purchased two days before this date to receive the dividend. Two days before February 21 is February 19; hence the last day the investor can purchase shares and still receive the dividend is February 18.

14. B is correct. The holder-of-record date, 28 February, is two business days after the ex-dividend date, 26 February.

15. B is correct. The chronology of a dividend payout is declaration date, ex-dividend date, holder-of record date, and payment date. The ex-dividend date is the cutoff date for receiving the upcoming dividend.

16. A is correct. A company may repurchase stock by making a tender offer to repurchase a specific number of shares at a price that is usually higher than the current market price.

17. C is correct. Dutch auctions begin with the company communicating to shareholders a specific number of shares and a range of acceptable prices. In a fixed price tender offer, the company announces a fixed number of shares to be repurchased and a fixed price. When companies repurchase shares in the open market, they buy at market prices and in quantities as conditions warrant.

18. C is correct. Of the methods listed, open market repurchases take the longest time to execute.

19. C is correct. A Dutch auction uncovers the minimum price at which the company can buy back the desired number of shares with the company paying that price to all qualifying bids. Here the qualifying bids are from $99 to $99.60 to satisfy the required 10 million share requirement. Under a Dutch auction, 10 million shares can be purchased for $99.60 because at that price point, sufficient volume is available in the shares. Using an open market share repurchase process, shares are bought at prices that vary between $99 and $99.60. The open market share repurchase will result in the average cost per share of $99.46.

Price	**Volume**	**Price × Volume**
$99.60	6,000,000	$597,600,000
$99.40	2,000,000	$198,800,000
$99.20	1,000,000	$99,200,000
$99.00	1,000,000	$99,000,000
Total Cost		$994,600,000
Average repurchased cost per share		$99.46

20. A is correct. Convert P/E to the earnings yield (E/P): $\frac{1}{10.5}$ = 9.5%. Because the after-tax cost of the external funds is lower than the earnings yield (i.e., 6% < 9.5%), the EPS will increase after the repurchase.

21. B is correct.

$$\text{Current earnings per share } = \frac{\$4{,}000{,}000}{2{,}000{,}000} = \$2.00$$
$$\text{Number of shares repurchased } = \frac{\$1{,}000{,}000}{\$25.00} = 40{,}000 \text{ shares}$$
$$\text{Adjusted net income } = \text{ Current net income } - [\text{debt} * \text{after tax cost of debt}]$$
$$= \$4{,}000{,}000 - [\$1{,}000{,}000 \times 8\% \times (1 - 40\%)] = \$3{,}952{,}000$$
$$\text{New earnings per share } = \frac{\$3{,}952{,}000}{[2{,}000{,}000 - 40{,}000]} = \$2.02$$

22. C is correct. Convert P/E to earnings yield: $\frac{1}{8.7}$ = 11.5%
    The EPS will decrease if the after-tax cost of funds is higher than the earnings yield i.e. above 11.5%.

23. B is correct. Total earnings = $4.76 * 80,000,000 = $380,800,000
    $$\text{EPS after buyback } = \frac{\text{Total earnings} - \text{After tax cost of funds}}{\text{Shares outstanding after buyback}}$$
    $= \frac{380{,}800{,}000 - (750{,}000 * 40 * 0.09)}{80{,}000{,}000 - 750{,}000}$
    = $4.77

24. C is correct. Share repurchase using borrowed funds will decrease EPS if the cost of debt is greater than the earnings yield.

25. C is correct. At the current market price, the company can repurchase 200,000 shares ($20 million/$100 = 200,000 shares). The company would have 1,800,000 shares outstanding after the repurchase (2 million shares − 200,000 shares = 1,800,000 shares).
    EPS before the buyback is $2.00 ($4 million/2 million shares = $2.00). Total earnings after the buyback are the same because the company uses idle (nonearning) cash to purchase the shares, but the number of shares outstanding is reduced to 1800,000. EPS increases to $2.22 ($4 million /1.8 million shares).

26. C is correct.
    Total earnings before buyback: $\$5.50 * 4{,}700{,}000$ shares = $25,850,000
    Total amount of borrowing: $\$65 * 200{,}000\ shares$ = $13,000,000
    After-tax cost of borrowing the amount of funds needed: $\$13{,}000{,}000 * 0.06$ = $780,000
    Number of shares outstanding after buyback: 4,700,000 – 200,000 = 4,500,000
    EPS after buyback: $\frac{\$25{,}850{,}000 - \$780{,}000}{4{,}500{,}000\ shares}$ = $5.57

27. A is correct. In a repurchase, if the after tax cost of debt is greater than the earnings yield, EPS decreases.

28. C is correct. The pre-buyback book value per share (BVPS) is $\frac{\$11}{0.80}$ = $13.75

Because the market price per share is less than BVPS, its BVPS should increase after the share buyback.
Pre-buyback book value of equity 20 $million * $13.75 = $275 million
Post-buyback book value of equity $275 million – (2 million * $11) = $253 million
Post-buyback shares outstanding: 18 million shares outstanding (10% less)
Post-buyback BVPS = $\frac{\$253 \text{ million}}{18 \text{ million shares}}$ = $14.05
As per the calculation, the post-buyback BVPS is $14.05.

29. C is correct.
Share buyback for both companies = $\frac{\$5 \text{ million}}{\$53 \text{ per share}}$ = 94,340 shares.
Remaining shares for both companies = 12 million − 94,340 = 11.906 million.
Current BVPS of Techo Ltd. = $\frac{\$475 \text{ million}}{12 \text{ million}}$ = $39.583.
The market price per share of $53 is greater than the BVPS of $39.593.
Book value after repurchase: $475 million - $5million = $470 million
BVPS = $\frac{\$470\ million}{11.906\ million}$ = $39.476
Change in BVPS = Decreased by $0.107
This is expected. When the market price is greater than BVPS, a share repurchase will reduce the BVPS.

Windows Inc's current BVPS = $\frac{\$950\ million}{12\ million}$ = $79.16.
The market price per share of $53 is less than the BVPS of $79.16.
Book value after repurchase: $950 million - $ 5 million = $945 million
BVPS = $\frac{\$945\ million}{11.906\ million}$ = $79.37
As expected the BVPS increases.

30. A is correct.

No. of shares purchased	$\frac{\$20\ million}{\$5\ per\ share}$	4 million shares
Remaining no of shares after share buyback	100 million – 4 million	96 million shares
Book value of the company after buyback	Total assets less cash used minus total liabilities: ($1300 - $20 – 900) millions	$380 million
BVPS after buyback	$\frac{\$380 \text{ million}}{96 \text{ million}}$	$3.96 per share

31. C is correct. The total wealth of the shareholder would remain the same with either method.

32. B is correct. For the two options to be equivalent with respect to shareholders' wealth, the amount of cash distributed and the taxation must be the same for both options.

33. C is correct. When there are no taxes, there are no tax differences between dividends and capital gains. All other things being equal, the effect on shareholder wealth of a dividend and a share repurchase should be the same.

34. C is correct. All else equal, a cash dividend and a share repurchase of the same amount are equivalent in terms of the effect on shareholders' wealth.