1.  
\[ \text{RoE} = 17\%, \quad \text{Payout} = 20\% \]

\[ \Rightarrow \text{Growth Rate (} g \text{)} = \text{RoE (1 - Payout)} = 17\% \times (1 - 20\%) = 13.6\% \]

\[ \text{Discount Rate (r)} = 18\% \quad \quad \text{D}_0 = 2.58 \]

\[ \text{Value} = \frac{D_0 (1 + g)}{r - g} = \frac{2.58(1 + 13.6\%)}{18\% - 13.6\%} = 66.61 \]

Answer: C

2.  
D. All of the above because

(A) Increasing debt (bond) increases leverage, which increases risk and return

(B) 

(C) The cost of financing: debt is cheaper than stock.

3.  
\[ \text{WACC} = W_d \times r_d + W_p \times r_p s + W_c s \times r_c s \]

\[ W_d = \frac{2,575,000}{2,575,000 + 550,000 + 18,125} = 12.12\% \]

\[ W_p s = \frac{550,000}{2,575,000 + 550,000 + 18,125} = 2.59\% \]

\[ W_c s = \frac{18,125}{2,575,000 + 550,000 + 18,125} = 0.85\% \]

\[ \text{WACC} = 12.12\% \times 5.25\% + 2.59\% \times 6.35\% + 0.85\% \times 14.05\% = \frac{12.78\%}{(A)} \]

4.  
\[ \text{EPS}_0 = 1.75 \quad \text{EPS}_1 = 1.88 \quad \text{P/E} = 15 \]

\[ \text{Value} = (P/E) \times \text{EPS}_1 = 1.88 \times 15 = 28.2 \quad (D) \]
5. Coupon = 10.85%, Par = 1000, maturity = 30 year, semiannual. 
Discount Rate (r) = 8.45%.
12 years later: 18 years remaining, 18 x 2 = 36 payments.
Payment = $1000 x 10.85% / 2 = 54.25 . \ r = \frac{8.45\%}{2} = 4.225\% .
Value = \frac{54.25}{0.04225} x (1 - (1 + 0.04225)^{-36}) + \frac{1000}{(1 + 0.04225)^{36}}
= 1220 . (c)

6. Coupon = 10%, YTM = 12% → Bond is at discount (discount) (cashflow)

7. Par = 1000.
30 year bond, 20 years ago = 10 years left. semi-annual → 20 periods.
Coupon Rate = 10% → semi-annual payment = 10% x 100/2 = 50.
Discount rate = 7%/2 = 3.5% (per half year)
Value = \frac{50}{0.035} (1 - (1.035)^{-20}) + \frac{1000}{1.035^{20}} = 1213 . (d)

8. Use market value for weight
W_d = 30%, W_p = 20%, W_s = 50%.
K_d = 10% (1-tax rate) = 10% (1-40%) = 6% .
K_p = 11% , K_s = 18%.
WACC = 30% x 6% + 20% x 11% + 50% x 18% = 13% . (c)
9. B. owners

10. CAPM is for common stock. C

11. \( \text{ROE} = 17\%, \text{Retention} = 75\% \)
\[ G = \text{ROE} \times \text{Retention} = 17\% \times 75\% = 12.75\% \]
\( (C) \)

12. Default premium (or credit spread) \( \Rightarrow A \)
   
   DEF: Corporations have higher chance than government (or that's what
   we are made to believe).

13. A: When the company needs to liquidate, it needs to
   pay bondholders first, then preferred stock holders
   (common stock holders are the last (residual claimant)).

14. \( R_f = 3.6\%, \quad \bar{R}_m = 11.6\%, \quad K_e = 19.6\% \)
   \[ K_e = R_f + \beta (\bar{R}_m - R_f) \]
   \[ \beta = \frac{(K_e - R_f)}{(\bar{R}_m - R_f)} \]
   \[ = \frac{19.6\% - 3.6\%}{11.6\% - 3.6\%} \]
   \[ = \frac{16\%}{8\%} = 2 \quad (A) \]

15. \( \beta = 1.5, \quad R_f = 5\%, \quad \bar{R}_m = 12\% \)
   \[ K_e = R_f + \beta (\bar{R}_m - R_f) \]
   \[ = 5\% + 1.5(12\% - 5\%) = 5\% + 1.5 \times 7\% = 15.5\% \]
\( (B) \)
6. \( P_0 = 50, \ r = 20\% \)

\[
P_0 = \frac{P_5}{(1+r)^5} = \frac{50}{1.2^5} = 20.09 \quad (C)
\]

17. \( p_0 = 1107.20, \)

\[ r = \frac{7.75\%}{2} = 3.875\% \quad (\text{Semi-Annual}) \]

\[ N = 60 \text{ periods (30 years, 2 payments per year)} \]

\[
P_0 = \frac{\text{Payment}}{0.03875^2} \left(1 - 1.03875^{-60}\right) + \frac{1000}{1.03875^{60}}
\]

\[
= 1107.20
\]

\( \text{Payment} = \left(1107.20 - \frac{1000}{1.03875^{60}}\right) \times \frac{0.03875}{1 - 1.03875^{-60}}
\]

\( = 43.38 \)

\( \text{Coupon Rate} = \frac{2 \times \text{Payment} - 1000}{1000} = \frac{2 \times 43.38}{1000} = 8.67\% \quad (C) \)

18. \( p_0 = 63, \ r = 10\%, \ g = 5\%, \Rightarrow \text{solve for } D_0 \)

\[
P_0 = \frac{D_0 (1+g)}{r-g} \Rightarrow
\]

\[
D_0 = \frac{P_0 (r-g)}{1+g} = \frac{63 \times (10\% - 5\%)}{1.05} = 3 \quad (D)
\]

19. \( D_0 = 1.65, \ g = 3\%, \ r = 11\% \)

\[
V_0 = \frac{D_0 (1+g)}{r-g} = \frac{1.65 \times 1.03}{11\% - 3\%} = 21.24 \quad (C)
\]
20. Bond price increases \( \Rightarrow \) YTM decreases. \( \frac{C}{C} \) 
   coupon cannot change

21. Stock value increase can come from more cash flow (dividend) smaller risk (discount rate) 
   \( \frac{C}{C} \)

22. 
   \[ P_0 = 4.0, \quad D_1 = 2, \quad r = 14\% \]
   \[ P_0 = \frac{D_1}{r - g} \]
   \[ g = r - \frac{D_1}{P_0} = 14\% - \frac{2}{4.0} = 14\% - 5\% = 9\% \]
   (c)

23. YTM is tax rate = 14\%.
   \[ K_d = R (1 - \text{tax}) = 14\% (1 - 40\%) = 8.4\% \]
   (D)

24. 
   \[ \text{ROE} = 25\%, \quad g = 10\% \]
   \[ \text{ROE} \times \text{Retention} \rightarrow \text{Growth Rate} \]
   \[ \text{Retention} = \frac{\text{Growth Rate}}{	ext{ROE}} = \frac{10\%}{25\%} = 40\% \]
   (B)

25. Both x & B \( \Rightarrow \) \( \frac{C}{C} \)