## CFA ${ }^{\circledR}$ SAMPLE QUESTION - LEVEL I

## Equity Investments

Q: An analyst gathered the following information about an industry.

| Industry Beta | 0.9 |
| :---: | :---: |
| Industry Profit Margin | $8 \%$ |
| Total Asset Turnover Ratio | 1.5 |
| Leverage Multiplier | 2 |
| Dividend Payout Ratio of the industry | $60 \%$ |
| Risk Free Rate | $7 \%$ |
| Expected Market Return | $15 \%$ |

The industry $P / E$ is around:

## CORRECT ANSWER:

## (d) 13.04

First, remember under CAPM setting
$\mathrm{k}=$ risk free rate return + beta $\times$ (Expected Market Return Risk Free rate return)
so $\mathrm{k}=7 \%+0.9(15 \%-7 \%)=14.2 \%$
Then by using the DuPont equation:
ROE $=$ Profit Margin $\times$ Asset Turnover $\times$ Leverage Multiplier so ROE $=8 \% \times 1.5 \times 2=24 \%$
$\mathrm{g}=$ retention ratio $\times \mathrm{ROE}=0.40 \times 24 \%=9.6 \%$
Finally P/E ratio = Payout Ratio $/(\mathrm{k}-\mathrm{g})$ = 0.6/(14.2\%-9.6\%)
$=13.04$


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