Solution:

The preferred dividends declared for the 2012 is given by:

$$Preferred\ Dividends = 0.1\ \times \$4\ million = \$0.4\ million$$

The dividends paid by the company can be calculated as follows:

$$\begin{aligned} Dividends\ Paid \\ &= Beginning\ Retained\ Earnings + Income \\ &- Ending\ Retained\ Earnings \end{aligned}$$

$$= \$1.4 + \$2.8 - \$3 = \$1.2\ million$$

The dividends that are paid to common stock is given by:

$$Common\ stock\ dividends = \$1.2 - \$0.4 = \$0.8\ million$$

The average common stockholders' equity is given by:

$$Average\ Common\ SE = \frac{\big((20 - 4) + (18.4 - 4)\big)}{2} = \$15.2\ million$$

Now, we define the return on common stock equity as:

$$ROCE = \frac{Net\ income - Preferred\ Dividends}{Average\ Common\ Stockholders'\ Equity}$$

$$ROCE = \frac{2.8 - 0.4}{15.2} = 15.79\%$$

The earnings per share is given by:

$$EPS = \frac{Net\ income}{Average\ number\ of\ common\ shares\ outstanding}$$

$$EPS = \$\frac{2.8 - 0.4\ million}{4\ million} = \$0.6\ per\ share$$

The price earning ratio is given by:

$$P.E.Ratio = \frac{Market\ price\ per\ share}{Earning\ per\ share}$$

$$P.E.Ratio = \frac{13.20}{0.6} = 22$$

The dividend-payout ratio is given by:

$$Dividend - Payout = \frac{Common\ dividend\ per\ share}{EPS}$$

$$Dividend - Payout = \frac{0.2}{0.6} = 33.3\%$$

The dividend yield ratio is given by:

$$Dividend - Yield = \frac{Common\ dividend\ per\ share}{Market\ price}$$

$$Dividend - Yield = \frac{0.2}{13.2} = 1.52\%$$

Finally, the book price is given by:

$$Book\ Price\ of\ common\ shares = \frac{\$(20 - 4)}{4} = \$4\ per\ share$$