

Problems 1 to 3

1.
 - a. Book value equals the \$200,000 the founder of the firm has contributed in tangible assets.
 - b. Market value equals the value of his patent plus the value of the production plant:
 $\$50,000,000 + \$200,000 = \$50,200,000$.
 - c. Book value per share = $\$200,000 / 2 \text{ million shares} = \0.10
 - d. Price per share = $\$50.2 \text{ million} / 2 \text{ million shares} = \25.10

2.

Sales	\$10,000
Cost of goods sold	6,500
General & administrative expenses	1,000
Depreciation expense	<u>1,000</u>
EBIT	1,500
Interest expense	<u>500</u>
Taxable income	1,000
Taxes (21%)	<u>210</u>
Net income	\$ 790

Cash flow from operations = net income + depreciation expense = \$1,790

3. An increase in accounts receivable reduces cash flow by \$10,000. An increase in accounts payable increases cash flow by \$5,000. A decrease in inventory increases cash flow by \$2,000. The total impact is a reduction in cash flow by \$3,000.

Problem 4

1.

			<i>Liabilities and</i>		
<i>Assets</i>	2018	2019	<i>Shareholders' Equity</i>	2018	2019
Cash & marketable securities	\$ 800	\$ 300	Accounts payable	\$ 300	\$ 350
Inventories	300	350	Notes payable	1,000	600
Accounts receivable	400	450	Long-term debt	<u>2,000</u>	<u>2,400</u>
Net fixed assets	<u>5,000</u>	<u>5,800</u>	Total liabilities	3,300	3,350
Total assets	\$6,500	\$6,900	Shareholders' equity	<u>3,200</u>	<u>3,550</u>
			Total liabilities plus		
			shareholders' equity	\$6,500	\$6,900

2.

Net working capital (2018) = $(\$800 + \$300 + \$400) - (\$300 + \$1,000) = \200

Net working capital (2019) = $(\$300 + \$350 + \$450) - (\$350 + \$600) = \150

Net working capital decreased by \$50.

3.

	2018	2019
Revenue	\$4,000	\$4,100
Cost of goods sold	1,600	1,700
Administrative expenses	500	550
Depreciation expense	500	520
Interest expense	<u>150</u>	<u>150</u>
Taxable income	1,250	1,180
Federal & state income taxes	<u>400</u>	<u>420</u>
Net income	\$ 850	\$ 760

Increase in retained earnings in 2019 = net income – dividends = \$760 – \$410 = \$350.

In 2019, shareholders' equity increased by the amount of the increase in retained earnings.

4. Earnings per share in 2018 = \$850,000/500,000 shares = \$1.70
Earnings per share in 2019 = \$760,000/500,000 shares = \$1.52

5. Net fixed assets increased by \$800,000 during 2019, while depreciation expense in 2019 was \$520,000. Therefore, gross investment in plant and equipment was \$1,320,000.

6.

Market Value Balance Sheet, 2019			
(figures in thousands of dollars)			
Assets		Liabilities & Shareholders' Equity	
Cash	\$ 300	Accounts payable	\$ 350
Inventories	350	Notes payable	600
Accounts receivable	450	Long-term debt	<u>2,200</u>
Employee skills	2,900	Total liabilities	3,150
Net fixed assets	<u>6,000</u>	Shareholders' equity*	<u>6,850</u>
Total assets	\$10,000	Total liabilities & shareholders' equity	\$10,000

* Shareholders' equity = total assets – total liabilities

Price per share = \$6,850,000/500,000 shares = \$13.70

7.

Cash provided by operations

Net income	\$ 760
Noncash expenses	
Depreciation expense	520
Changes in working capital	
Decrease (increase) in accounts receivable	(50)
Decrease (increase) in inventories	(50)
Increase (decrease) in accounts payable	<u>50</u>
Total change in working capital	(50)
Cash provided by operations	\$1,230

Cash flows from investments

Cash provided by (used for) disposal of (additions to) property, plant & equipment	<u>(1,320)</u>
Cash provided by (used for) investments	(1,320)

Cash provided by (used for) financing activities

Additions to (reductions in) notes payable	(400)
Additions to (reductions in) long-term debt	400
Dividends paid	<u>(410)</u>
Cash provided by (used for) financing activities	(410)
Net increase (decrease) in cash and cash equivalents	(\$500)

8. Average tax bracket in 2018 = taxes/taxable income = \$400/\$1,250 = 0.320 = 32.0%
 Average tax bracket in 2019 = \$420/\$1180 = 0.356 = 35.6%
 In order to determine the firm's marginal tax bracket, one would need information
 regarding tax rates applicable for both federal and state income taxes.