Problem 1

a.

	($ in millions)
Sales	$ 22.00
Cost of goods sold	9.60
Interest expense	2.60
Depreciation expense	3.60
Taxable income	$ 6.20
Taxes (21%)	1.30
Net income	$ 4.90

b. Net cash flow = net income + depreciation expense = $8.50 million

c. If depreciation expense were increased by $2.60 million, net income would be reduced by $2.05 million. Cash flow (= net income + depreciation) would be increased by − $2.05 million + $2.60 million = $0.55 million.

Cash flow increases because depreciation expense is not a cash outflow, but increasing the depreciation expense for tax purposes reduces taxes paid by $0.55 million.

d. If interest expense was $1.00 million higher and the depreciation was $1.00 million lower, the taxes will be the same, but the drop in depreciation would cause a decrease in cash flow by $1.00 million.

Problem 2

a. & b.

Sales	$ 10,500
Cost of goods sold	6,600
General & administrative expenses	1,100
Depreciation expense	1,100
EBIT	$ 1,700
Interest expense	600
Taxable income	$ 1,100
Taxes (21%)	231
Net income	$ 869

c. Cash flow from operations = net income + depreciation expense = $1,969

Problem 3

An increase in accounts receivable reduces cash flow by $23,000. An increase in accounts payable increases cash flow by $11,500. A decrease in inventory increases cash flow by $2,400. The total impact is a reduction in cash flow by $9,100.

Problem 4

a. Taxes on your salary = (0.10 × $9,525) + 0.12 × ($38,700 – $9,525) + 0.22 × ($50,000 – $38,700) = $13,319.50

Taxes on corporate income = 0.21 × $30,200 = $6,342

Total taxes = $13,319.50 + $6,342 = $19,661.50

b. If you rearrange income so that your salary and the firm's profit are both $54,600, then:

Taxes on your salary = (0.10 × $9,525) + 0.12 × ($38,700 – $9,525) + 0.22 × ($54,600 – $38,700) = $7,952

Taxes on corporate income = 0.21 × $54,600 = $11,466

Total taxes = $7,952 + $11,466 = $19,418

Total taxes are reduced by $19,662 – $19,418 = $244

c. Any personal income above $38,700 will be taxed at the higher marginal applicable personal rate than the flat corporate rate. Personal income below that rate will be charged at the lower marginal applicable personal rate. Therefore, you will minimize the total tax bill by paying yourself $38,700 and leaving the balance of $68,900 to corporate profit.

Problem 5

a. Increase, because the announcement is likely to increase the market value of the firm.

b. Increase, because an increase in the depreciation provision will decrease the value of the assets. This will be reflected in a lower book value of equity.

Problem 6

a. Cash will increase as one current asset (inventory) is exchanged for another (cash).

b. Cash will increase. The machine will bring in cash when it is sold, but the lease payments will be made over several years.

c. The firm will use cash to buy back the shares from existing shareholders. Cash balance will decrease.