$y = mx + b$ Word Problems Key

#3-8, #10-13 only

3) eqn: $C = 5h + 3$

- C: cost
- 5: rate
- h: hrs
- 3: constant/flat fee

$C = 5(5) + 3$

$C = \$28$

6) eqn: $C = 50h + 25$

- C: cost
- 50: rate
- h: hrs
- 25: constant/flat fee

$C = 50(8) + 25 = \$425$ for 8 hrs

$C = 50(10) + 25 = \$525$ for 10 hrs

7) $P = 25w + 100$

- P: total pounds
- 25: rate
- w: weeks
- 100: constant/starting point

$400 = 25w + 100$

$-100 \quad -100$

$\frac{300}{25} = \frac{25w}{25}$

$12 = w$

12 weeks

8) $y = 30 \cdot x + 20$

- y: cost
- 30: rate
- x: hrs
- 20: transportation fee

$y = 30(6) + 20$

$y = \$200$

10) $C = 150h + 250$

$C = 150(26) + 250$

$C = \$4150$

11) $V = 8m + 55$

$V = 8(25) + 55$

$V = 255$ gallons

12) $R = 2.50\ v + 20$

R: Revenue; 2.50: cost per video; v: videos; 20: membership fee

15 videos

$R = 2.50(15) + 20$

$R = \$57.50$

\$67.50 Revenue:

$67.50 = 2.50v + 20$

$-20.00 \qquad -20$

$47.50 = 2.50v$

$\frac{47.50}{2.50} = \frac{2.50v}{2.50}$

$19 = v$

19 videos

13) $C = 2.50b + 200$

C: cost; b: baskets; 200: fixed weekly costs

40 baskets:

$C = 2.50(40) + 200$

$C = 100 + 200$

$C = \$300$

\$562.50 cost

$562.50 = 2.50b + 200$

$-200 \qquad -200$

$362.50 = 2.50b$

$\frac{362.50}{2.50} = \frac{2.50b}{2.50}$

$145 = b$

145 baskets