

4.3

$$1) \text{ (5)} \quad \underline{3x+2} = -7 \text{ (5)}$$

$$3x+2 = -7$$
$$\underline{-2 \quad -2}$$

$$\underline{3x} = \underline{33}$$
$$\underline{3 \quad 3}$$

$$x = 11$$

$$2) \text{ (5)} \quad \underline{3x+2y} = -7 \text{ (5)}$$

$$3x+2y = -7$$
$$\underline{-2y \quad -2y}$$

$$\underline{3x} = \underline{35-2y}$$
$$\underline{3 \quad 3}$$

$$x = \frac{35-2y}{3}$$

$$3) \quad \underline{\frac{4x}{3} - 5} = 11$$

$$+15 \quad +15$$

$$\text{(3)} \quad \underline{\frac{4x}{3}} = 16 \text{ (3)}$$

$$4x = 48$$
$$\underline{4 \quad 4}$$

$$x = 12$$

$$4) \quad \underline{\frac{4x}{3} - 5y} = 11$$

$$+15y \quad +15y$$

$$\text{(3)} \quad \underline{\frac{4x}{3}} = (11+5y) \text{ (3)}$$

$$4x = 33+15y$$
$$\underline{4 \quad 4}$$

$$x = \frac{33+15y}{4}$$

$$5) \text{ (5)} \quad \underline{\frac{2}{5}(x+3)} = 6 \text{ (5)}$$

$$2(x+3) = 30$$

$$2x+6 = 30$$

$$\underline{-6 \quad -6}$$

$$2x = 24$$

$$x = 12$$

$$6) \text{ (5)} \quad \underline{\frac{2}{5}(x+y)} = 6 \text{ (5)}$$

$$2(x+y) = 30$$

$$2x+2y = 30$$

$$\underline{-2y \quad -2y}$$

$$2x = 30-2y$$

$$x = 15-y$$

$$\begin{aligned}
 7) \quad & 2(3x+4) = 4x+12 \\
 & 6x+8 = 4x+12 \\
 & \begin{array}{r} -4x \quad -4x \\ 2x+8 = 12 \\ -8 \quad -8 \\ \hline 2x = 4 \\ \hline x = 2 \end{array}
 \end{aligned}$$

$$\begin{aligned}
 8) \quad & 2(3x+4y) = 4x+12y \\
 & 6x+8y = 4x+12y \\
 & \begin{array}{r} -4x \quad -4x \\ 2x+8y = 12y \\ -8y \quad -8y \\ \hline 2x = 4y \\ \hline x = 2y \end{array}
 \end{aligned}$$

$$\begin{aligned}
 a) \quad & \cancel{V = \frac{1}{3} \pi r^2 h} \quad (3) \\
 & \cancel{3V = \pi r^2 h}
 \end{aligned}$$

b) When finding the radius

$$\begin{aligned}
 a) \quad & \cancel{V = \frac{1}{3} \pi r^2 h} \quad (3) \\
 & a) \rightarrow \frac{3V}{\pi h} = \frac{\pi r^2 h}{\pi h} \\
 & \sqrt{\frac{3V}{\pi h}} = r^2 \\
 & \sqrt{\frac{3V}{\pi h}} = r
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & \cancel{V = \frac{1}{3} \pi r^2 h} \quad (3) \\
 & \frac{3V}{\pi r^2} = \frac{\pi r^2 h}{\pi r^2} \\
 & \frac{3V}{\pi r^2} = h
 \end{aligned}$$

$$\begin{aligned}
 h &= \frac{3V}{\pi r^2} \\
 h &= \frac{3(216\pi)}{\pi (18)^2} \\
 h &= \frac{648}{324} \\
 h &= 2 \text{ units}
 \end{aligned}$$