

$$13) \quad x^2 - 5x - 14 = 0$$

$$(x-7)(x+2)$$

$$\text{check} = x^2 - 7x + 2x - 14$$

$$x^2 - 5x - 14$$

$$14) \quad \sqrt{9-x} + 3 = 5$$

$$\sqrt{9-x} = 5 - 3 = 2$$

$$9-x = 2^2 = 4$$

$$9-4 = x$$

$$x = 5$$

$$15) \quad \sqrt{240x^8y^8z^6}$$

$$\sqrt{16 \times 15 \times y^8 z^6}$$

$$4y^4z^3\sqrt{15x}$$

$$\frac{15}{\sqrt{3}}$$

$$\rightarrow 15\sqrt{3}$$

$$\frac{3}{3}$$

$$\rightarrow 5\sqrt{3}$$

$$10) \quad \sin \theta \text{ for } \tan \theta = \frac{3}{4}$$

$$\tan \theta = \frac{o}{a} = \frac{3}{4}$$

$$\sin \theta = \frac{a}{h} \quad \text{and} \quad h = \sqrt{o^2 + a^2}$$

$$h = \sqrt{3^2 + 4^2} = 5$$

$$\therefore \sin \theta = \frac{4}{5}$$

$$11) \quad 8(t+2) = 3(2t+12)$$

$$8t + 16 = 6t + 36$$

$$8t - 6t = 36 - 16$$

$$2t = 20$$

$$t = 10$$

$$12) \quad \frac{x}{5} + \frac{1}{4} = 1 + \frac{x}{2}$$

$$\frac{-3x}{10} = \frac{3}{4}$$

$$\frac{x}{5} - \frac{x}{2} = 1 - \frac{1}{4}$$

$$x = \frac{-30}{12}$$

$$\frac{2x}{10} - \frac{5x}{10} = \frac{4}{4} - \frac{1}{4}$$

$$x = -\frac{5}{2}$$