

Topic: Equations

04.01

$$5 - 2(1 + 3x) = 27$$

$$5 - 2 - 6x = 27$$

$$-6x = 27 - 5 + 2$$

$$-6x = 24$$

$$x = \underline{\underline{-4}}$$

04.02

$$x - 2(x + 1) = 8$$

$$x - 2x - 2 = 8$$

$$-x = 8 + 2$$

$$-x = 10$$

$$x = \underline{\underline{-10}}$$

04.03

~~5x~~

$$5 + 3a = a - 15$$

$$3a - a = -15 - 5$$

$$2a = -20$$

$$a = \underline{\underline{-10}}$$

04.04

$$\frac{2}{x} + 1 = 6$$

$$\frac{2}{x} = 6 - 1$$

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

$$5x = 2$$

$$x = \underline{\underline{\frac{2}{5} / 0.4}}$$

04.05

$$2x - \frac{(3x-1)}{4} = 4$$

$$\frac{8x}{4} - \frac{(3x-1)}{4} = 4$$

$$\frac{8x - 3x + 1}{4} = 4$$

$$5x + 1 = 16$$

$$5x = 15$$

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

04.06

$$\frac{x}{2} + \frac{(x+1)}{3} = 4$$

$$\frac{3x + 2(x+1)}{6} = 4$$

$$3x + 2x + 2 = 24$$

$$5x = 24 - 2$$

$$5x = 22$$

$$x = \underline{\underline{\frac{22}{5} = 4.4 / 4\frac{2}{5}}}$$

Topic: Equations

04.07

$$\frac{m}{3} = \frac{(1-m)}{5}$$

$$5m = 3(1-m)$$

$$5m = 3 - 3m$$

$$8m = 3$$

$$m = \frac{3}{8}$$

04.08

$$5 - 2(1 + 3x) = 27$$

$$5 - 2 - 6x = 27$$

$$-6x = 27 - 5 + 2$$

$$-6x = 24$$

$$x = \underline{\underline{-4}}$$

04.09

$$5 + 3a = a - 15$$

$$3a - a = -15 - 5$$

$$2a = -20$$

$$a = \underline{\underline{-10}}$$

04.10

$$A = \frac{1}{2} b \times h$$

$$7 = \frac{1}{2} \times 2x \times (2x - 5)$$

$$7 = x(2x - 5)$$

$$7 = 2x^2 - 5x$$

$$2x^2 - 5x - 7 = 0$$

$$(2x - 7)(x + 1) = 0$$

$$2x = 7$$

$$x = 3.5$$

$$x = -1$$

length can't be negative

04.11

$$A_1 = 3x \times 4x$$

$$= 12x^2$$

$$A_2 = \frac{1}{4} \text{ of } 12x^2 = 3x^2$$

$$A \text{ of } \Delta = \frac{1}{2} b \times h$$

$$3x^2 = \frac{1}{2} (3x - x) \times TD$$

$$6x^2 = 2x \times TD$$

$$TD = \frac{6x^2}{2x} = \underline{\underline{3x}}$$

