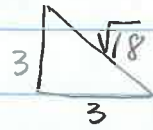


9.2.4

HWK

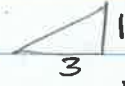
9-110)

a) $\sqrt{18} \approx 4.24$ units, IRR



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 3^2 + 3^2 &= c^2 \\ 9 + 9 &= c^2 \\ 18 &= c^2 \end{aligned}$$

b) $\sqrt{10} \approx 3.16$ units, IRR

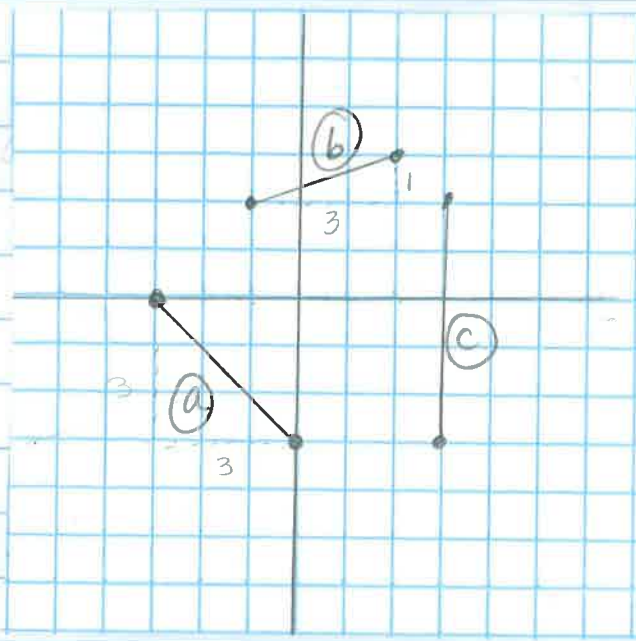


$$\begin{aligned} a^2 + b^2 &= c^2 \\ 3^2 + 1^2 &= c^2 \\ 9 + 1 &= c^2 \end{aligned}$$

$$\sqrt{10} = c$$

c) 5 units, Rational

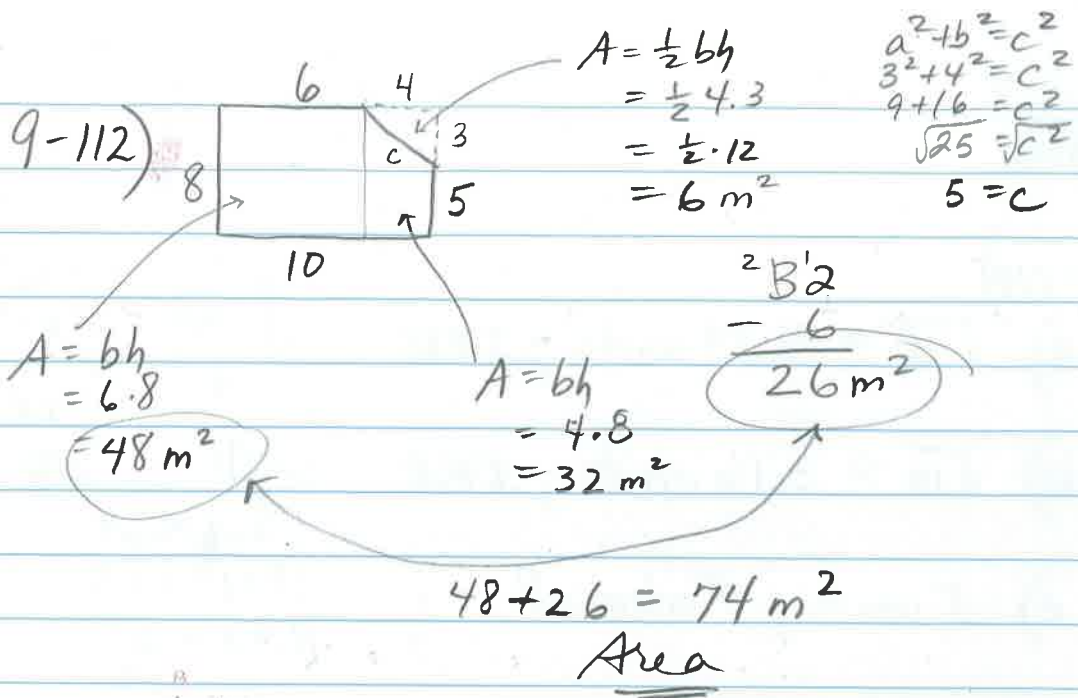
$$\begin{aligned} 10 &= c^2 \\ \sqrt{10} &= c \end{aligned}$$



9-111)

$$\frac{48}{16} = \frac{24}{8} = \frac{12}{4} = 3$$

$$|\frac{3}{4} \div 3 = \frac{3}{4} \cdot \frac{1}{3} = \frac{1}{4} \text{ cup of butter}$$



perimeter
 $P = 6 + 8 + 10 + 5 + 5 = 34 \text{ m}$
 (c) 34 m

- 9-113)
- a) $370,000,000 = 3.7 \times 10^8$
- b) $0.00000000000076 = 7.6 \times 10^{-12}$

- 9-114)
- a) $4x^3y \cdot 3xy^2 = 12x^4y^3$
- b) $6a^5b^2 \cdot 3ab^2 = 18a^6b^4$
- c) $m^2n \cdot 9mn = 9m^3n^2$
- d) $\frac{3^5 \cdot 8 \cdot 5^3}{3^2 \cdot 2^3 \cdot 5^3 \cdot 3^3} = 1$

$$e) \frac{m^4 \cdot n}{n^3} = \frac{m^4}{n^2}$$

$$f) \frac{39a^2b^2}{15b} = \frac{3a^2b}{5}$$

$$9-115) \quad a) \begin{array}{r} |5-6+1| \\ |1+1| \\ 0 \end{array}$$

$$b) \begin{array}{r} -2|-16| \\ -2 \cdot 16 \\ -32 \end{array}$$

$$c) \begin{array}{r} |6-2| + |-8-1| \\ 4 + |-9| \\ 4+9 \\ 13 \end{array}$$

$$9-116) \quad a) \sqrt{36} = 6 \text{ rational}$$

$$b) 0.\overline{62} = \frac{62}{99} \text{ rational}$$

$$c) \sqrt{92} \text{ irrational}$$

$$9-117)$$

$$a) y = 2x + 1$$

$$y = 3x - 4$$

$$2x + 1 = 3x - 4$$

$$\begin{array}{r} -2x \quad -2x \\ \hline 1 = -5x - 4 \end{array}$$

$$+4 \quad +4$$

$$\begin{array}{r} 5 = -5x \quad x = -1 \end{array}$$

$$\begin{array}{l} y = 2x + 1 \quad (x, y) \\ y = 2(-1) + 1 \quad (-1, -1) \\ y = -1 \end{array}$$

$$5 = -5x \quad x = -1$$

$$b) \begin{cases} y = \frac{1}{3}x + 4 \\ y = \frac{1}{2}x - 2 \end{cases}$$

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

$$\frac{-\frac{1}{2}x}{-\frac{1}{6}x + 4} = \frac{-\frac{1}{2}x}{-2}$$

$$\frac{1}{3} - \frac{1}{2} = \frac{2}{6} - \frac{3}{6} = -\frac{1}{6}$$

$$\frac{-\frac{1}{6}x + 4}{-4} = \frac{-2}{-4}$$

$$(-6) - \frac{1}{6}x = -6(-6)$$

$$x = 36$$

$$(x, y)$$

$$(36, 16)$$

$$y = \frac{1}{3}x + 4$$

$$y = \frac{1}{3}(36) + 4$$

$$y = \frac{36}{3} + 4$$

$$y = 12 + 4$$

$$y = 16$$

$$9-118) \begin{cases} y = 6 + (-3)x \\ y = -3x + 6 \end{cases}$$

a) y-intercept is (0, 6)

b) slope = -3

9-119) skip

$$9-120) \frac{420 \text{ miles}}{6 \text{ hours}} = \frac{x}{7.5}$$

$$3150 = 6x$$

$$525 \text{ miles} = x$$

$$\text{Thurs} = x$$

$$9-121) \quad \text{Friday} = \text{Thurs.} + 5500$$

$$\text{Sat} = 2 \cdot \text{Thurs.}$$

$$\text{Sun} = (2 \cdot \text{Thurs}) + 3000$$

$$x + (x + 5500) + 2x + (2x + 3000) = 36,700$$

$$6x + 8500 = 36,700$$

$$\underline{6x = 28,200}$$

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

$$x = 4700$$

$$\text{Thursday} = x = 4700$$

$$\text{Friday} = (x + 5500) = 10,200$$

$$\text{Sat} = (2x) = 9400$$

$$\text{Sun} = (2x + 3000) = 12,400$$