

Paper Part

Show all your work when answering these questions.

Question

1

An investment firm holds a starting balance of \$ 850,000 in its corporate account. By the end of the week, $\$ 6.2 \times 10^4$ was deposited by clients.

- a) How much does the firm have in total at the end of the week?
Explain your answer.

$$\begin{aligned} 6.2 \times 10^4 &= 62000 \\ \text{the total} &= 850,000 + 62,000 \\ &= \$912,000 \end{aligned}$$

- b) Write your answer in scientific notation.

$$912000 = 9.12 \times 10^5$$

Question

2

If the area of a square is 38 square feet, estimate the length of each side of the square to the nearest tenth.

$$A = l^2$$

$$l^2 = 38$$

$$l = \sqrt{38}$$

$$\sqrt{36} < \sqrt{38} < \sqrt{49}$$

$$6 < \sqrt{38} < 7$$

$$\sqrt{38} \approx 6$$

$$\sqrt{37.21} < \sqrt{38} < \sqrt{38.44}$$

$$6.1 < \sqrt{38} < 6.2$$

38 is nearest to 38.44

$$\sqrt{38} \approx 6.2$$

62

62

124

3720

38.44

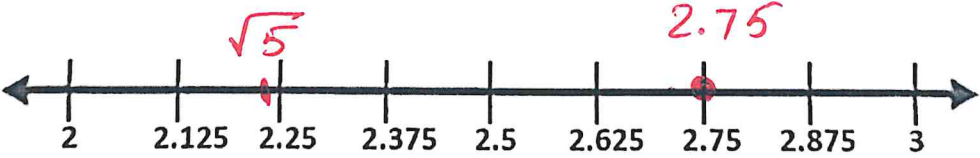
61

61

61

3680

37.21

Question	3
a) Write one rational number and one irrational number that lie between 2 and 3	<p>rational number 2.75</p> <p>irrational number $\sqrt{5}$</p> <p>because $\sqrt{4}$ is rational = 2</p> <p>$\sqrt{9}$ is rational = 3</p> <p>any $\sqrt{\quad}$ between 4 and 9 irrational</p> <p>so, $\sqrt{5}, \sqrt{6}, \sqrt{7}, \sqrt{8}$ irrational</p>
b) Write an inequality to compare the two numbers obtained above.	<p>$2.75 > \sqrt{5}$</p>
c) Graph the numbers obtained above on the number line.	 <p>$\sqrt{4.84} < \sqrt{5} < \sqrt{5.29}$</p> <p>$2.2 < \sqrt{5} < 2.3$</p>

$$\begin{array}{r} 21 \\ \times 21 \\ \hline 21 \\ 420 \\ \hline 441 \end{array}$$

$$\begin{array}{r} 22 \\ 22 \\ \hline 44 \\ 440 \\ \hline 484 \end{array}$$

$$\begin{array}{r} 23 \\ 23 \\ \hline 69 \\ 460 \\ \hline 529 \end{array}$$

Question

4

Solve the equation and check your solution.

$$7x + 12 = x - 6$$

$$\begin{array}{r} 7x + 12 = x - 6 \\ -x \quad \quad -x \end{array}$$

$$\begin{array}{r} 6x + 12 = -6 \\ -12 \quad -12 \end{array}$$

$$\begin{array}{r} 6x = -18 \\ \hline 6 \end{array}$$

$$x = -3$$

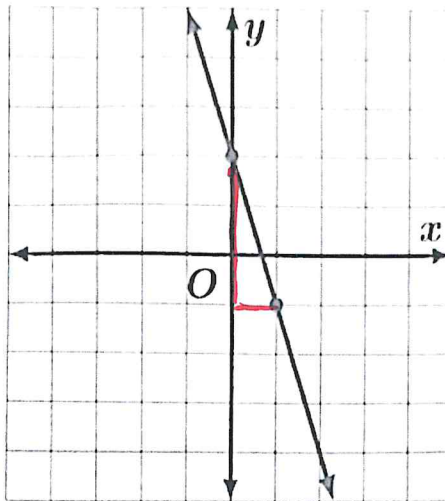
Check

$$\begin{aligned} \bullet 7x + 12 &= 7(-3) + 12 \\ &= -21 + 12 \\ &= -9 \end{aligned}$$

$$\begin{aligned} \bullet x - 6 &= -3 - 6 = -9 \\ -9 &= -9 \end{aligned}$$

Question

5



a) write the y-intercept of the graph shown above.

y-intercept = 2

b) Write an equation in slope-intercept form for the graph shown above.

slope = $-\frac{3}{1} = -3$

$y = -3x + 2$