

1). Circle the values listed below that are irrational:

$\sqrt{25}$ $\sqrt{14}$ $7/6$
 $1.\bar{3}$ 3π $\sqrt{1}$

Explain why they are irrational.

Can't be represented as a fraction

2). Place the values listed below in descending order:

$(-1/2)^3$, $\sqrt{8}$, $-5/-5$, π
 1.3 , $(3)^{-2}$, $(-1)^5$, $\sqrt{16}$
 $\sqrt{16}$, π , $\sqrt{8}$, 1.3 , $-5/-5$, $(3)^{-2}$, $(-1/2)^3$, $(-1)^5$

3). Fill in the chart below

fraction	decimal	percent
$5/8$	0.625	62.5%
$2/3$	$0.\bar{6}$	$66\frac{2}{3}\%$
$11/50$	0.22	22%
$9/4$	2.25	225%
$5/9$	$0.\bar{5}$	$55\frac{5}{9}\%$
$1/250$	0.004	0.4%

4). Compare using $<$, $>$, $=$

π $<$ $4/1$
 0.77 $<$ $0.\bar{7}$
 $1/2$ $=$ 0.5000
 2^{-3} $=$ $1/8$

5). Simplify using exponents:

$$7^3 \times 7^3 = 7^6$$

$$5^4 \div 5^{-3} = 5^7$$

6). Write the standard numerical value for:

$$4.92 \times 10^8 = 492,000,000$$

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6). Continued

$$0.078 \times 10^{-7} = 0.000000078$$

At the beginning of 2024, the population of the California was 39.43 million people. Express this population using scientific notation.

$$3.943 \times 10^7$$

7). Complete the chart

X	Y
1	4
2	5
3	6
-2	1
5	8
-6	-3

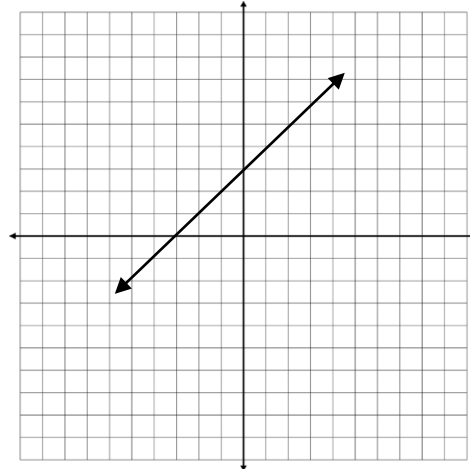
Write an equation that describes the relationship.

$$Y = X + 3$$

Graph the equation on the grid below. What is the slope of the line?

$$\text{Slope} = 1$$

Does this graph define a function – explain why or why not. **Yes, only 1 y-value for each x-value (vertical line test)**



8). On the same grid above, also sketch a graph that is not a function and label this graph **A**.

Various

KEY

Name

9). Write an equation that has:

a) no solution

various

$$\text{ex: } x = x + 1$$

b) one solution

various

$$\text{ex: } 4 = x + 1$$

c) infinite solutions

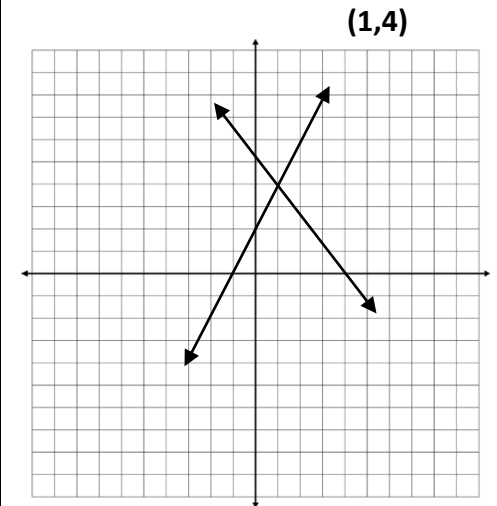
various

$$\text{ex: } 2x = x + x$$

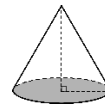
10). Solve and graph the pair of simultaneous linear equations:

$$X + Y = 5$$

$$3X - Y = -1$$

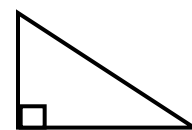


11). The cone shown below has a radius of 5 cm and height of 5 cm. Find the volume in terms of pi.



$$V = \frac{125\pi}{3} \text{ cm}^3$$

12). The legs in the triangle below measure 12cm and 16cm. Find the length of the hypotenuse.



$$20 \text{ cm}$$

13). Explain the difference between similarity and congruence.

Same shape; same size & same shape

14). Point A has coordinates of (1,4). Give the coordinates after this point has been reflected over the y axis.

$$(-1,4)$$