

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

$\sqrt{25}$ $\sqrt{6}$ $1/7$
 $0.\bar{9}$ 9π $\sqrt{9}$

Explain why they are irrational.

-No decimal representation

-Non-ending or non-repeating decimal

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

$(-1/3)^2$, $\sqrt{2}$, $-2/5$, $\pi/2$
 2.2 , $(2)^{-2}$, $(-2)^2$, $\sqrt{4}$
 $(-2)^2$, 2.2 , $\sqrt{4}$, $\pi/2$, $\sqrt{2}$, $(2)^{-2}$, $(-1/3)^2$, $2/5$

3). Fill in the chart below

fraction	decimal	percent
$3/8$	0.375	37.5%
$2/5$	0.4	40%
$1 \frac{1}{2}$	1.5	150%
$7/5$	1.4	140%
$41/99$	$0.\overline{41}$	41 41/99%
$3/1000$	0.003	0.3%

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

π $<$ $4/1$
 0.75 $<$ $0.\bar{7}$
 $1/6$ $>$ 0.16
 2^{-2} $>$ $1/5$

5). Simplify using exponents:

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

$$6^4 \div 6^3 = 6^1$$

6). Write the standard numerical value for:

$$0.0083 \times 10^9 = \mathbf{8,300,000}$$

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6). Continued

$$365 \times 10^{-7} = \mathbf{0.0000365}$$

In 2019, the population of India was 1.37 billion people. Express this population using scientific notation.

$$\mathbf{1.37 \times 10^9}$$

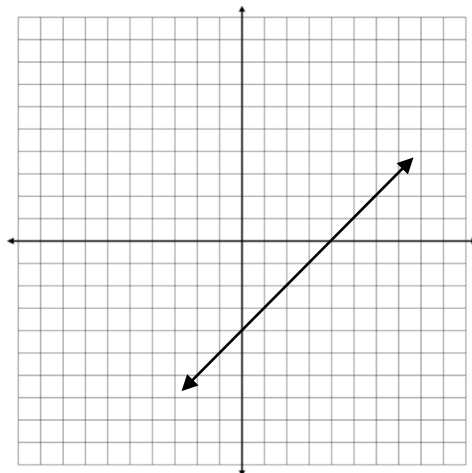
7). Complete the chart

X	Y
1	-3
2	-2
3	-1
-2	-6
5	1
-5	-9

Write an equation that describes the relationship. $Y = X - 4$ or $X = Y + 4$

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

$$\mathbf{x + 1 = x + 2 \text{ or various}}$$

b) one solution

$$\mathbf{x + 1 = 2 \text{ or various}}$$

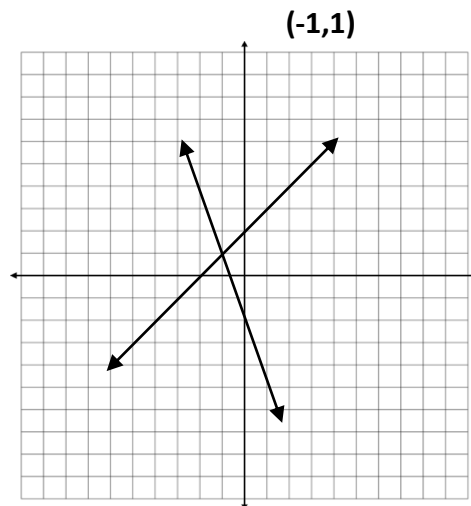
c) infinite solutions

$$\mathbf{x = x \text{ or various}}$$

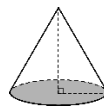
10). Solve and graph the pair of simultaneous linear equations:

$$3X + Y = -2$$

$$X - Y = -2$$

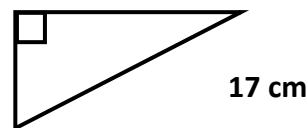


11). The cone shown below has a radius of 3 cm and height of 8 cm. Find the volume in terms of pi.



$$\mathbf{24\pi \text{ cm}^3}$$

12). The legs in the triangle below measure 8cm and 15cm. Find the length of the hypotenuse.



13). Explain the difference between similarity and congruence.

Same size Same shape & size

14). Point A has coordinates of (0,5). Give the coordinates after this point has been reflected over the x axis.

$$\mathbf{(0,-5)}$$