

Question 1:

Choose the correct answer; write your answer in the table below:

1. Translate into an algebraic expression: "Two more than four times a number".

- a) **2+4x**
- b) $2+x^4$
- c) $2x^4$
- d) $4+x^2$

2. What percent of 55 is 11?

- a) 5%
- b) 44%
- c) 23%
- d) **20%**

$$\text{Percent} = \frac{11}{55} * 100 = 20\%$$

3. One of the following is a solution for the inequality $-2x > 8$.

- a) 0
- b) **-4**
- c) -5
- d) 4

$$\begin{aligned} -2x &> 8 \\ \frac{-2}{2}x &> \frac{8}{2} \\ -x &> 4 \\ \frac{-x}{-1} &> \frac{4}{-1} \\ x &> -4 \end{aligned}$$

4. The y-intercept for the line $y=3$ is:

- a) (3,3)
- b) **(0,3)**
- c) (3,0)
- d) (0,0)

5. The Excluded value of $\frac{x-2}{x+3}$

- a) -2
- b) 3
- c) **-3**
- d) 2



Let $x = -3$

$$\frac{-3-2}{-3+3} = \frac{-5}{0} = \infty$$

6. Simplify $(-3x^{-5})^2(2x^3)^{-2}$

a) $\frac{9}{4x^{16}}$

b) $\frac{9}{4x^{12}}$

c) $\frac{-6}{x^{16}}$

d) $\frac{-9}{4x^{12}}$

$$\left(\frac{-3}{x^5}\right)^2 \left(\frac{1}{2x^3}\right)^2$$
$$\frac{9^1}{x^7} \frac{1^1}{4x^5}$$
$$\frac{9}{4x^{12}}$$

7. The value of $(x^3+y)^2 - x^3y$ is:

a) $x^6+y^2-x^3y$

b) $x^5+x^3y+y^2$

c) $2x^3+2y-x^3y$

d) $x^6+x^3y+y^2$

$$(x^3+y)^2 - x^3y$$

$$(x^3+y)(x^3+y) - x^3y$$

$$x^6+x^3y+x^3y+y^2-x^3y$$

$$x^6+x^3y+y^2$$

Perform and simplify



$$\frac{x^2-2x-15}{(x-1)^2} * \frac{x-1}{x^2-25}$$

$$\frac{x^2-2x-15}{(x-1)(x-1)} * \frac{x-1}{x^2-25}$$

$$\frac{x^2-2x-15}{(x-1)} * \frac{1}{x^2-25}$$

$$\frac{(x-5)(x+3)}{(x-1)(x-5)(x+5)}$$

$$\frac{x+3}{(x-1)(x+5)}$$

Question 3:

Solve the inequality

$$\frac{-3x+2}{4} > 5$$

$$(-3x+2) > 20$$

$$-3x > 20-2$$

$$-3x > 18$$

$$x < -6$$

Solve the equation $x^2-13x+42=0$

$$x^2-13x+42=0$$

$$(x-6)(x-7)=0 \Rightarrow x=6 \text{ Or } x=7$$



