

Intermediate Algebra Questions (worksheet 4)

Q1. Write the most appropriate answer in the blank.

(a) $(-2x^3)^2 =$ _____

(b) The slope of the line $x + y = 0$ is _____

(c) If $x = 2$ and $y = -2$, then $x^2 + y^2 =$ _____

(d) The y -intercept of the line $x - y = 5$ is _____

(e) $-4 + 8 \div 2 =$ _____

(f) A simplified form of $2(x + 2) - x + 3$ is _____

(g) If $f(x) = x^2 + 2x + 1$, then $f(-2) =$ _____

(h) The point $(-2, 2)$ is in quadrant _____

(i) The ordered pair solution of the system $\begin{matrix} -x + y = 2 \\ x = -1 \end{matrix}$ is _____

(j) The solution set of $x^2 - 4 = 0$ is _____

Q2. Simplify $\left(\frac{x}{y}\right)^0 (xy^3)^2 x^2 y$

Q3. Solve for x .

(a) $\frac{3x - 1}{2} = x + 2$

(b) $|x + 3| = 4$

Q4. Solve $|x + 2| \geq 4$ and write the solution set in interval notation.

Q5. Solve the system
$$\begin{aligned} 2x + 3y &= 4 \\ x + 2y &= 3 \end{aligned}$$

Q6. Find the equation of the line through the points $(2, 3)$ and $(6, 7)$.

Q7. Are the lines $y = -2x + 3$ and $2x + y = 4$ parallel, perpendicular or neither? Explain your answer.

Q8. Let $R = \{ (1, 0), (2, 3), (1, -2), (3, 4) \}$.

(a) Determine the domain of R .

(b) Is R a function? Explain your answer.

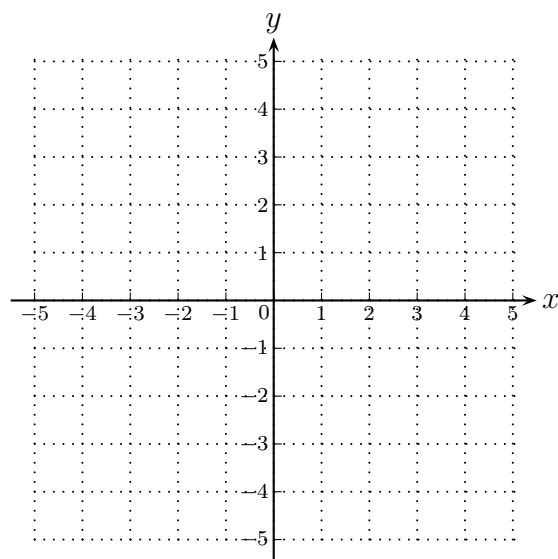
(c) What is the range of R ?

Q9. a. Complete the table below using the equation $x + y = 2$

x	-1	0	1	2
y				

b. Graph the equation $x + y = 2$.

c. Find the x -intercept of the graph.



d. Is there a y -intercept for the graph? if so, find it.

Q10. Let $f(x) = x^2 - 5$ and $g(x) = |x - 1|$.

(a) $f(-2) =$

(b) $f(3) =$

(c) $g(6) =$

(d) $g(-7) =$

Q11. Solve the quadratic equations.

(a) $x^2 + 3x - 4 = 0$

(b) $-x^2 + 4 = 0$

Q12. Let $A = (2, 3)$ and $B = (3, 2)$.

(a) Find the midpoint of the line segment AB .

(b). What is the length of the line segment AB ?

- Q13.** On Sunday, Sarah and Lydia paid \$13 for 2 sandwiches and 2 coffees. On Tuesday, they paid \$12.50 for 3 sandwiches and one coffee. What was the price of one sandwich? What was the price of one coffee?