

Intermediate Algebra Questions (worksheet 3)

Q1. Choose the correct answer.

(a) Evaluate the expression: $-10 - 4 \times 12 + 5$

A. 5

B. 0

C. -2

D. -6

(b) Simplify the following expression: $(-x^{22})^2 \cdot x^{-22}$

A. 5

B. 0

C. -2

D. -6

(c) The distance between the numbers 6 and -6 on the number line is

A. $x > 2$

B. $x > -2$

C. $x \geq 2$

D. $x \geq -2$

(d) Which of the equations below is inconsistent?

A. Parallel

B. Perpendicular

C. Neither parallel nor perpendicular

D. none of these

(e) Write 3.59×10^4 in standard form.

A. 0

B. 3

C. 1

D. -1

(f) The set $[-3, 3]$ is the solution set to

- A. A function is not a relation
B. Every function is a relation
C. Every relation is a function
D. A relation is not a function

(g) Which of these inequalities has **NO** solutions?

- A. $2x + 4 > 1$ B. $|x| > -5$ C. $|x| < -10$ D. $-x + 3 \geq 5$

(h) A system of two linear equations with two variables is independent if it has

- A. Two solutions B. One solution
C. No solutions D. Many solutions

(i) The lines $y = (a + 1)x + 3$ and $y = -3x + 2$ are parallel if $a =$

- A. -4 B. 4 C. -3 D. 3

(j) Which of these points is on the graph of the equation $2x + 3y = 7$?

- A. $(2, 3)$ B. $(0, 3)$ C. $(-1, 3)$ D. $(3, 0)$

Q2. Solve the following inequality:

$$\frac{2x - 1}{-3} < -5$$

Q3. A rectangular field has a perimeter of 104 meters. The length of the field is 12 meters more than its width. Find the length and the width of this field. **(6 pts)**

Q4. Solve the following equations:

b. $4|2x + 5| = 12$

c. $(2x + 1)^2 = 25$

d. $2x^2 + 9x + 5 = 0$

Q5. Solve the following inequality and write the answer in interval notation.

$$|2x + 1| + 3 \geq 7$$

Q6. Solve the following system of equations

$$2x + 3y = 5$$

$$3x + 7y = 15$$

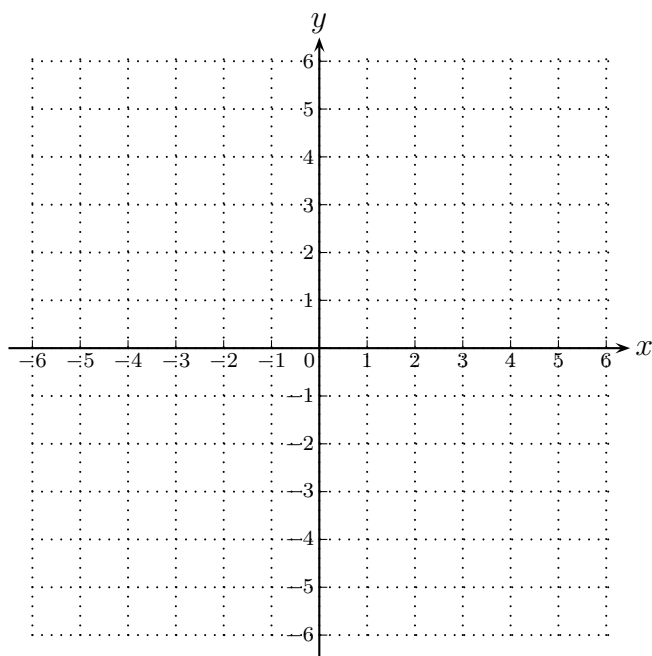
Q7. $3x + 4y = 12$ is the equation of line L.

a. Find the x intercept of line L.

b. Find the y intercept of line L.

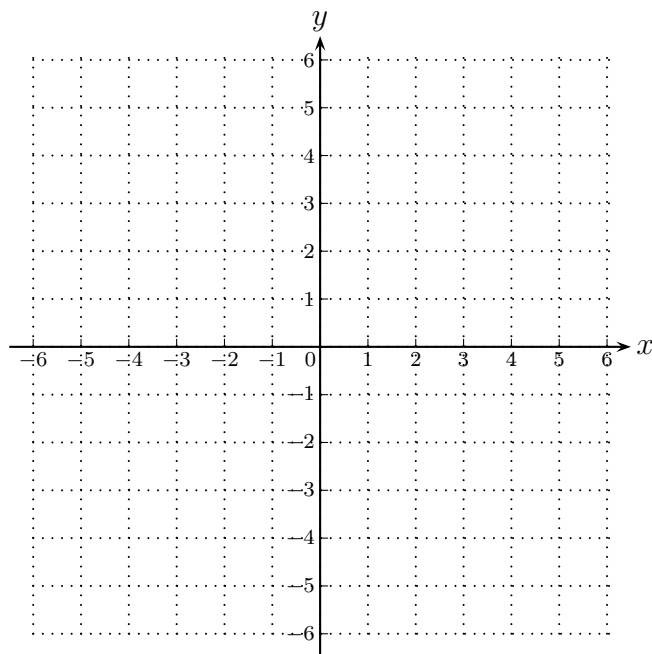
c. Find the slope of line L.

d. Graph line L.



Q8. Consider the relation $A = \{(2, -1), (-1, 0), (-2, 3), (-3, -2)\}$.

a. Graph the ordered pairs in A .



b. Does A represent a function? Explain your answer.

c. Find the domain of A .

d. Find the range of A .

e. Find all possible values of x so that the relation $B = \{(2, -1), (-1, 0), (-2, 3), (x, -2)\}$ is not a function.

Q9. Consider the line segment PQ with endpoints $P(-2, 1)$ and $Q(4, 5)$.

a. Find the length of segment PQ .

b. Find the midpoint of segment PQ .

c. Find the slope of the line through the points P and Q .

d. Find the equation of the line that passes through the point $(1, 1)$ and is perpendicular to the line through P and Q .