

Intermediate Algebra Questions (worksheet 2)

Q1. Choose the correct answer.

(a) If $x = -2$ and $y = -1$, then $x^3 - 2y =$

A. 6

B. -10

C. -6

D. 10

(b) $\left(\frac{1}{-3}\right)^{-2} =$

A. $\frac{1}{9}$

B. 9

C. 6

D. $-\frac{1}{9}$

(c) The average winter temperature in Alaska is -30°C , and in Cairo it is 15°C . How much warmer is it in Cairo than in Alaska?

A. 45°C

B. 15°C

C. -45°C

D. -15°C

(d) $2^8 \cdot 2^8 =$

A. 4^{16}

B. 2^{64}

C. 4^8

D. 2^{16}

(e) Which property is used to write $2x + 2y = 2(x + y)$?

A. Commutative property

B. Distributive property

C. Multiplicative inverse property

D. Associative property

(f) Write an inequality that describes the situation:

"length L is at most 32 cm"

A. $L = 32\text{cm}$

B. $L > 32$

C. $L \geq 32\text{cm}$

D. $L \leq 32\text{cm}$

(g) The equation $mx - 7 = 3 - 5(x + 2)$ is an identity if $m =$

A. 5

B. -5

C. any real number

D. 0

(h) Evaluate $\frac{3}{(-5) \cdot 0}$

A. $\frac{3}{(-5)}$

B. 0

C. undefined

D. 3

(i) The multiplicative inverse of $\frac{10^{-4}}{10^{-6}}$

A. 10^{-2}

B. 0

C. 10^{-6}

D. 10^2

(j) The scientific notation of 0.000000013 is

A. 1.3×10^{-6}

B. 1.3×10^{-7}

C. 1.3×10^{-8}

D. 1.3×10^{-9}

Q2. Evaluate the following expressions:

a. $9 - 7(12 - 5^2)$

b. $\sqrt{8 \cdot 9 \div 2 - 11} - 51$

c. $(-2)^4 + 4|7 - 4(4 - 7)|$

Q3. Simplify the following expressions:

a. $(-8a^2b^{-3})^2$

b. $\frac{(c^5d^3)(c^3d^4)}{-5c^6d^3}$

c. $\frac{(16x^2y^{-3})^3(-2x^{-5}y^2)^0}{64(xy)^5}$

Q4. Simplify the following expressions:

a. $15p - 2(6p^2 - 15p + 24) + 8p^2 + 20$

b. $(5 - x(5 - 2) + 3x)^2$

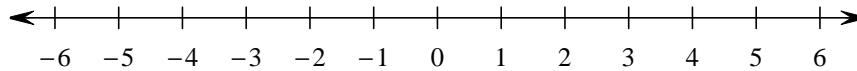
Q5. Solve the following equations.

a. $8 - 2(1 + 7x) - 6(-7 - x) = 36$

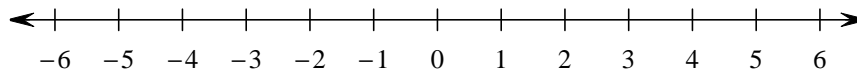
b. $\frac{x + 2}{6} - \frac{x - 3}{3} = \frac{x}{6} + 2$

Q6. Solve the following inequalities and write the solution set in **interval notation** and **graph** it.

a. $2 + 3(x - 1) < -2x + 4.$



b. $-4 < 2x - 4 \leq 2.$



Q7. Find the value of K so that the two equations given below, have the same solution.

$$x + 3 = 4$$

$$2x - K = 5$$

Q8. Mr Rich wants to sell his villa and get 2,880,000 \$. The agent charges 10% of the selling price.

a What should the selling price be?

b What would be the agent's commission?

Q9. A small ship and a large ship left Port and sailed in opposite directions. After 9 hours, the distance between them was 585 km. The speed of the large ship was 40 km/hr. Find the speed of the small ship.

