

Algebra Readiness/Pre-Test

1. Perform the indicated operation.

A) $17 + (-15)$

B) $24 - (-3)$

C) $(-4) + (-6)$

D) $19 \cdot 3$

E) $18 \div (-3)$

F) $(-6) \cdot (-12)$

2. The factor pairs of the number 16 are:

$1 \cdot 16$

$2 \cdot 8$

$4 \cdot 4$

List the factor pairs of the number 24:

3. Evaluate the given expression. Do NOT convert fractions to decimals OR improper fractions to mixed numbers.

A) $8 - (6 - 9)$

B) $\frac{3}{4} + \frac{2}{3}$

C) $4 \cdot (-6) + 15$

D) $6.8 + 0.37$

E) $(2^5 - 12) \div 10$

F) $\sqrt{\frac{25}{36}}$

4. Work with percents:

A) *What percent of 120 is 12?*

B) *What is 20% of 120?*

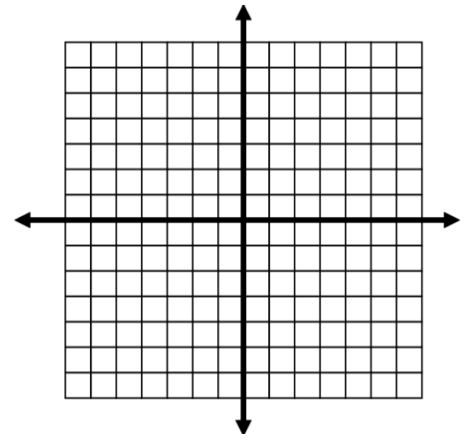
C) *Write 60% as a decimal.*

5. Plot the following set of numbers on a number line:

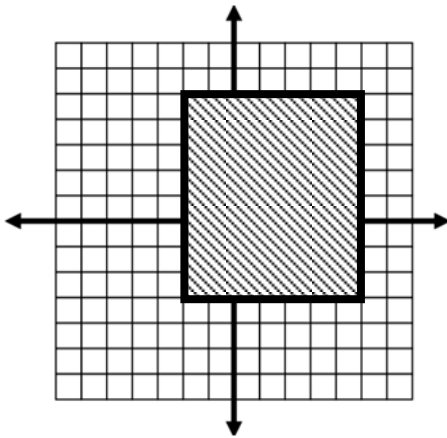
$|-5|$ $\frac{4}{5}$ -4.5 $-\sqrt{16}$ 2^2 $\sqrt{10}$

6. Plot the points in the coordinate plane and label them with their letter.

- A) $(3, 7)$
- B) $(-6, 6)$
- C) $(-4, 0)$
- D) $(2, -5)$



7. Find the area of the rectangle on this coordinate plane.



8. The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$. Find the volume of a sphere with a radius of 6 meters.

(Leave your answer in terms of pi, and label your answer with the correct units.)

For questions 9 and 10, use the following information: Joey opened a checking account with an initial deposit of \$100 that he got from his grandma. He also deposited a paycheck of \$525 from his part-time job, and he made withdrawals of \$65 for clothes and \$42 to put gas in his car.

9. What is the current total amount (balance) in Joey's account?

10. What is the difference between the opening balance and the current balance?

Algebra Readiness/Pre-Test

Answers

1. Perform the indicated operation.

A) $17 + (-15)$ **2**

B) $24 - (-3)$ **27**

C) $(-4) + (-6)$ **-10**

D) $19 \cdot 3$ **57**

E) $18 \div (-3)$ **-6**

F) $(-6) \cdot (-12)$ **72**

2. The factor pairs of the number 16 are:

- 1 · 16
- 2 · 8
- 4 · 4

List the factor pairs of the number 24:

- 1 · 24
- 2 · 12
- 3 · 8
- 4 · 6

3. Evaluate the given expression. Do NOT convert fractions to decimals OR improper fractions to mixed numbers.

A) $8 - (6 - 9)$

$8 - (-3)$

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B) $\frac{3}{4} + \frac{2}{3}$ **$\frac{9}{12} + \frac{8}{12}$**

$\frac{17}{12}$

C) $4 \cdot (-6) + 15$

$-24 + 15$

-9

D) $6.8 + 0.37$ **6.80**

$+0.37$

7.17

E) $(2^5 - 12) \div 10$

$(32 - 12) \div 10$

$20 \div 10$

2

F) $\sqrt{\frac{25}{36}}$

$\frac{\sqrt{25}}{\sqrt{36}}$

$\frac{5}{6}$

4. Work with percents:

A) What percent of 120 is 12?

$120 \overline{)12.0} \rightarrow 10\%$

-OR-

$\frac{x}{100} = \frac{12}{120}$

∴ solve for x = 10%

B) What is 20% of 120?

$\frac{120}{\times .20} \rightarrow 24.00$ or from Part A, $12 \cdot 2 =$

24

C) Write 60% as a decimal.

0.60

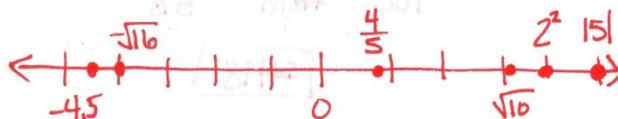
or

0.6

5. Plot the following set of numbers on a number line:

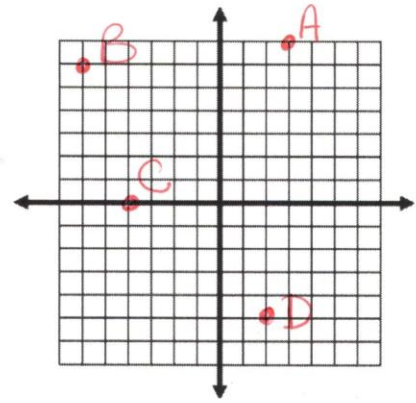
$| -5 |$ $\frac{4}{5}$ -4.5 $-\sqrt{16}$ 2^2 $\sqrt{10}$ $\leftarrow \sqrt{9} = 3$ so $\sqrt{10}$ is a bit more than 3

5 0.8 -4.5 -4 4 3.1-ish

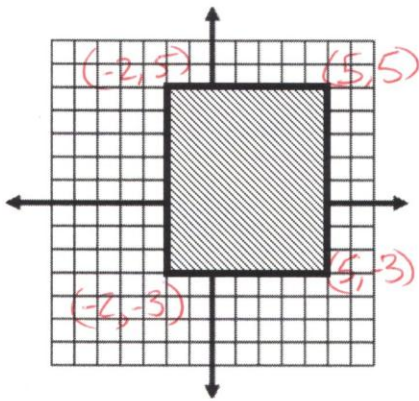


6. Plot the points in the coordinate plane and label them with their letter.

- A) (3, 7)
- B) (-6, 6)
- C) (-4, 0)
- D) (2, -5)



7. Find the area of the rectangle on this coordinate plane.



$$\begin{aligned} \text{Base Length} &= 5 - (-2) = 7 \\ \text{Height} &= 5 - (-3) = 8 \end{aligned}$$

$$\begin{aligned} \text{Area} &= \text{Base} \times \text{Height} \\ &= 7 \cdot 8 \end{aligned}$$

$$= 56 \text{ sq. units}$$

8. The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$. Find the volume of a sphere with a radius of 6 meters.

(Leave your answer in terms of pi, and label your answer with the correct units.)

$$V = \frac{4}{3}\pi (6)^3$$

$$= \frac{4}{3}\pi 216$$

$$= 4\pi 72 = 288\pi \text{ m}^3$$

For questions 9 and 10, use the following information: Joey opened a checking account with an initial deposit of \$100 that he got from his grandma. He also deposited a paycheck of \$525 from his part-time job, and he made withdrawals of \$65 for clothes and \$42 to put gas in his car.

9. What is the current total amount (balance) in Joey's account?

$$100 + 525 - 65 - 42$$

$$= 625 - 107 = \$518$$

10. What is the difference between the opening balance and the current balance?

subtract

100 from 518

$$\$418$$