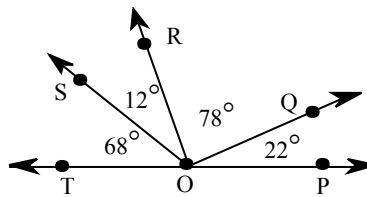


1. Identify each pair of complementary angles.



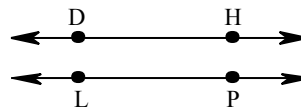
Which angle is complementary to  $\angle TOS$ ?

- A.  $\angle QOP$
- B.  $\angle TOP$
- C.  $\angle ROQ$
- D.  $\angle SOR$

Which angle is complementary to  $\angle ROQ$ ?

- A.  $\angle SOT$
- B.  $\angle TOP$
- C.  $\angle QOP$
- D.  $\angle SOR$

2. Determine whether the following lines are parallel, perpendicular, or intersecting.



Are the lines  $\overleftrightarrow{DH}$  and  $\overleftrightarrow{LP}$  parallel, perpendicular, or intersecting?

- A. Perpendicular
- B. Intersecting
- C. Parallel

3. Add the following.

$$-10 + (-29)$$

$$-10 + (-29) = \underline{\hspace{2cm}}$$

4. Add the following.

$$14 + [-9 + (-4)]$$

$$14 + [-9 + (-4)] = \underline{\hspace{2cm}}$$

5. Find the difference.

$$3 - (3 - 6)$$

$$3 - (3 - 6) = \underline{\hspace{2cm}}$$

6. Add the following.

$$3\frac{9}{10} + (-4\frac{4}{5})$$

Which of the following is the correct sum?

- A.  $-\frac{9}{10}$
- B.  $8\frac{7}{10}$
- C.  $\frac{9}{10}$
- D.  $-1$

7. Add. Do not use a number line except as a check.

$$-\frac{5}{6} + \frac{2}{3}$$

$$-\frac{5}{6} + \frac{2}{3} = \underline{\hspace{2cm}}$$

(Simplify your answer. Type an integer or a fraction.)

8. Add the following.

$$2\frac{3}{4} + (-3\frac{1}{2})$$

Which of the following is the correct sum?

A.  $6\frac{1}{4}$

B.  $-1$

C.  $\frac{3}{4}$

D.  $-\frac{3}{4}$

9. Add the following. Do not use a number line except as a check.

$$-62.7 + 35.5$$

$$-62.7 + 35.5 = \underline{\hspace{2cm}}$$

10. Find percent notation for 0.374.

$$0.374 = \underline{\hspace{2cm}}\%$$

(Simplify your answer. Type an integer or a decimal.)

11. Find percent notation for 0.0386.

$$0.0386 = \underline{\hspace{2cm}}\%$$

(Type an integer or a decimal.)

12. Solve for part.

$$45\% \text{ of } 640 \text{ guests} = \underline{\hspace{2cm}} \text{ guests}$$

$$\underline{\hspace{2cm}} \text{ guests}$$

(Type an integer.)

13. 56 students is 70% of how many students?

$$\underline{\hspace{2cm}} \text{ students}$$

14. Find the unknown value in the percent proportion  $\frac{\text{part}}{\text{whole}} = \frac{\text{percent}}{100}$ .

$$\text{part} = 70, \text{ whole} = 56$$

$$\text{The answer is } \underline{\hspace{2cm}}\%.$$

15. Find the whole if the part is 44 and the percent is 40.

$$\text{The whole is } \underline{\hspace{2cm}}.$$

16. Solve using the principles together. Don't forget to check.

$$8x - 9 = 11x + 12$$

The solution is  $x =$  \_\_\_\_\_.

17. Solve.

$$3(x + 4) = 5(x - 2)$$

$x =$  \_\_\_\_\_

18. Solve.

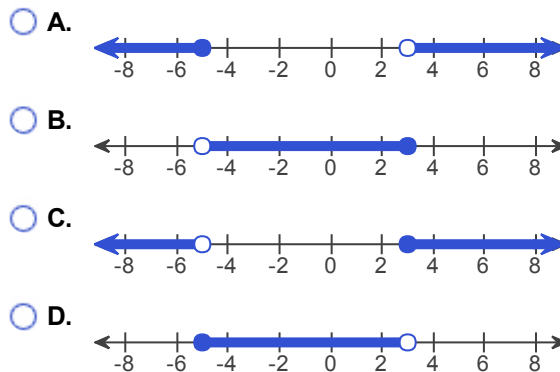
$$\frac{5}{2}x + \frac{1}{4}x = \frac{7}{4} + x$$

The solution is  $x =$  \_\_\_\_\_. (Simplify your answer. Type an integer or a fraction.)

19. Graph on a number line, where  $x$  is a real number.

$$-5 < x \leq 3$$

Choose the graph of  $-5 < x \leq 3$ .



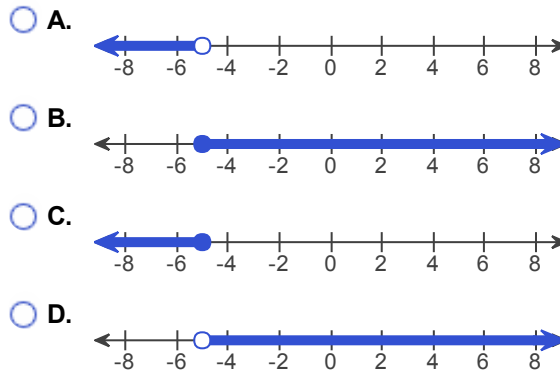
20. Solve for  $x$ .

Graph the solution.

$$4x + 1 < 3x - 4$$

The solution is  $x <$  \_\_\_\_\_.

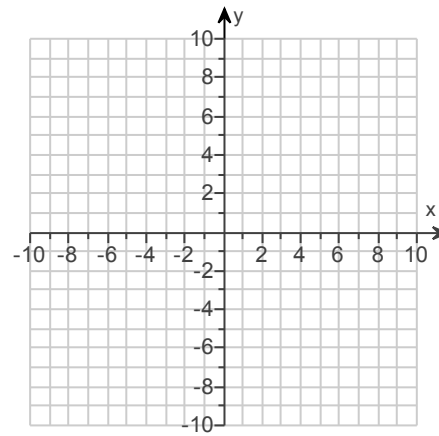
Which is the correct graph?



21. Graph the linear equation.

$$x - y = 3$$

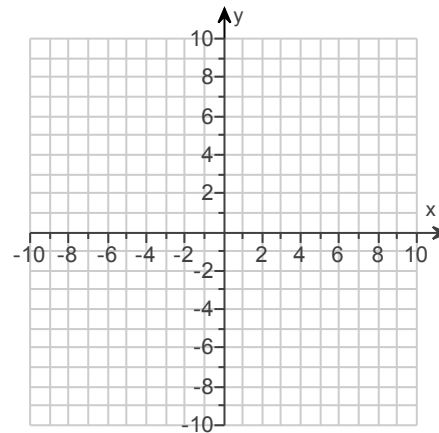
Use the graphing tool on the right to graph the line.



22. Graph.

$$6x + 4y = -24$$

Use the graphing tool on the right to graph the equation.



23. Find the slope, if it exists, of the line containing the pair of points.

$$(-14, -1) \text{ and } (-19, -7)$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The slope is . (Type an integer or a simplified fraction.)
- B. The slope is undefined.

24. Find the slope, if it exists, of the line containing the pair of points.

$$(7, 5) \text{ and } (10, -7)$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The slope  $m =$  . (Simplify your answer. Type an integer or a fraction.)
- B. The slope is undefined.

25. In a mixture of concrete, there are four lb of cement mix for each pound of gravel. If the mixture contains a total of 105 lb of these two ingredients, how many pounds of gravel are there?

How many pounds of gravel are there?  lb

26. A midwestern music competition awarded 32 ribbons. The number of blue ribbons awarded was 3 less than the number of white ribbons. The number of red ribbons was 2 more than the number of white ribbons. How many of each kind of ribbon was awarded?

How many white ribbons were awarded? \_\_\_\_\_

How many blue ribbons were awarded? \_\_\_\_\_

How many red ribbons were awarded? \_\_\_\_\_

27. The sum of the measures of the angles of any triangle is 180 degrees. In triangle ABC, angles A and B have the same measure, while the measure of angle C is 90 degrees larger than each of A and B. What are the measures of the three angles?

Angle A is \_\_\_\_\_ degrees.

Angle B is \_\_\_\_\_ degrees.

Angle C is \_\_\_\_\_ degrees.

28. Write in exponential notation.

$$\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)$$

$$\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right) = \underline{\hspace{2cm}}$$

(Type your answer using exponential notation. Use integers or fractions for any numbers in the expression.)

29. Identify the base and the exponent.

$$-2x^3$$

The base is \_\_\_\_\_.

The exponent is \_\_\_\_\_.

30. Multiply and simplify.

$$8^5 \cdot 8^4$$

$$8^5 \cdot 8^4 = \underline{\hspace{2cm}}$$

(Type your answer using exponential notation. Use positive exponents only.)

1. A.  $\angle QOP$

D.  $\angle SOR$

---

2. C. Parallel

---

3. -39

---

4. 1

---

5. 6

---

6. A.  $-\frac{9}{10}$

---

7.  $-\frac{1}{6}$

---

8. D.  $-\frac{3}{4}$

---

9. -27.2

---

10. 37.4

---

11. 3.86

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12. 288

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13. 80

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14. 125

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15. 110

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16. -7

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17. 11

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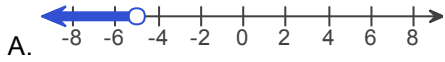
18. 1

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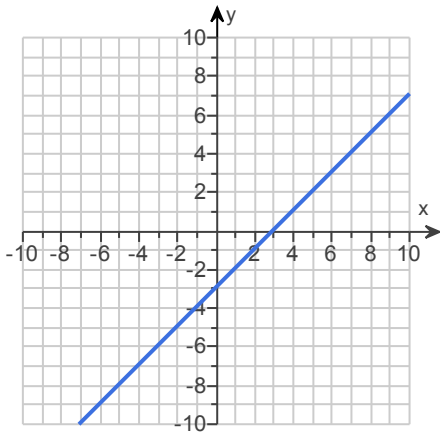
19.



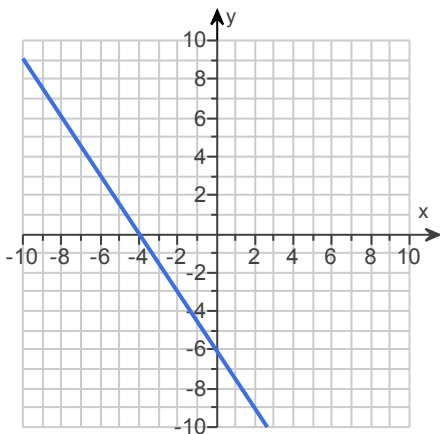
20. -5



21.



22.



23. A. The slope is          $\frac{6}{5}$         . (Type an integer or a simplified fraction.)

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24. A. The slope  $m =$          - 4        . (Simplify your answer. Type an integer or a fraction.)

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25. 21

---

26. 11

8

13

---

27. 30

30

120

---

28.  $\left(\frac{1}{5}\right)^6$

---

29. x

3

---

30.  $8^9$

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