1. Evaluate.

$\frac{r-s}{5}$ for $r=41$ and $s=1$

$\frac{r-s}{5} =$ ☐

(Simplify your answer.)

2. Translate to an algebraic expression.

13 less than d

The translation is ☐.

3. Multiply.

$14(x+1+3z)$

$14(x+1+3z) =$ ☐

4. Use the distributive law to factor the following. Check by multiplying.

$5x+40+50y$

$5x+40+50y =$ ☐

(Factor completely.)

5. Find the prime factorization of the number. If the number is prime, state this.

88

Select the correct choice below and fill in any answer boxes within your choice.

○ A. $88 =$ ☐

○ B. The number is prime.

6. Tell which real numbers correspond to the situation.

During a year, a person saves 1350 dollars, and then spends 625 dollars.

What signed number corresponds to 'a person saves 1350 dollars'?

$\square$

What signed number corresponds to 'spends 625 dollars'?

$\square$

7. Find the absolute value.

$|-54|$

$|-54| = \square$

8. Add.

$81 + (-84) + (-95) + (-48)$

$81 + (-84) + (-95) + (-48) = \square$

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

9. Subtract.

$-5.3 - 8.4$

$-5.3 - 8.4 = \square$

10. Multiply.

$-3 \cdot (-5) \cdot (-4) \cdot (-5)$

$-3 \cdot (-5) \cdot (-4) \cdot (-5) = \square$

11. Perform the indicated operation and, if possible, simplify. If the quotient is undefined, state this.

$$\frac{2}{21} \div \left(\frac{-5}{7} \right)$$

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

○ A. $\frac{2}{21} \div \left(\frac{-5}{7} \right) =$ ☐ (Type an integer or a simplified fraction.)

○ B. The quotient is undefined.

12. Simplify.

$15 + 8^3 \div (-64) \cdot 8$

The result is ☐. (Type an integer or a fraction.)

13. Combine like terms.

$8y + (-4x) - 2x + 1 - 3y + 5$

$8y + (-4x) - 2x + 1 - 3y + 5 =$ ☐

14. Find the opposite, or additive inverse, of -8.

The opposite, or additive inverse, of -8 is ☐.

15. Find the reciprocal of 6.

The reciprocal of 6 is ☐.

16. Write exponential notation using the given base.

$3z \cdot 3z \cdot 3z \cdot 3z \cdot 3z$

$3z \cdot 3z \cdot 3z \cdot 3z \cdot 3z =$ ☐

17. Simplify.

$7x-(5x+3)$

$7x-(5x+3)=$ ☐

18. Remove parentheses and simplify.

$4r+2s-3(4r-2s)$

$4r+2s-3(4r-2s)=$ ☐
(Simplify your answer.)

19. Remove parentheses and simplify.

$8b^5+b-2(b^5+6b)$

The simplified expression is ☐.

20. Remove parentheses and simplify.

$13x^2-3xy+9y^2-2(-4x^2+7xy-7y^2)$

$13x^2-3xy+9y^2-2(-4x^2+7xy-7y^2)=$ ☐

21. Simplify.

$4(5q-4)-[3(3q-3)+2]$

$4(5q-4)-[3(3q-3)+2]=$ ☐
(Simplify your answer.)

22. Solve for x using the addition principle. Don't forget to perform a check.

$x+8=-13$

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

23. Solve and check your solution.

$-6y = 48$

The solution is $y =$ ☐.

24. Solve using the multiplication principle. Don't forget to perform a check.

$-\frac{x}{2} = 11$

The solution is $x =$ ☐.

25. Solve.

$-\frac{5}{4}m = -10$

The solution is $m =$ ☐.
(Simplify your answer. Type an integer or a decimal.)

26. Solve using the addition principle.

$x - \frac{3}{10} = -\frac{3}{5}$

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

27. Solve.

$5x + 10 = 40$

The solution is $x =$ ☐.
(Type an integer or a simplified fraction.)

28. Solve and check.

$4r + 5 = 19r + 10$

The solution is $r =$ ☐. (Simplify your answer. Type an integer or a fraction.)

29. Clear fractions or decimals, solve, and check.

$\frac{10}{3} + \frac{1}{4}t = 6$

The solution is $t =$ ☐. (Simplify your answer. Type an integer or a fraction.)

30. Solve.

$6 - 2x = 6x - 10x + 16$

The solution is $x =$ ☐.

31. Solve.

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

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

32. Solve.

$7(x + 4) = 9(x - 2)$

The solution is $x =$ ☐.

33. Solve for g.

$A = gn$

$g =$ ☐

34. Solve for k.

$$d = \frac{1}{2}kr$$

The solution is $k =$ ☐.
(Use integers or fractions for any numbers in the expression. Simplify your answer.)

35. Solve for y.

$8x - 4y = 12$

$y =$ ☐ (Simplify your answer.)

36. Solve for z.

$P = hz + bz$

$z =$ ☐ (Simplify your answer.)

37. What percent of 72 is 18?

☐% (Type an integer or a decimal.)

38. Translate to an equation and solve.

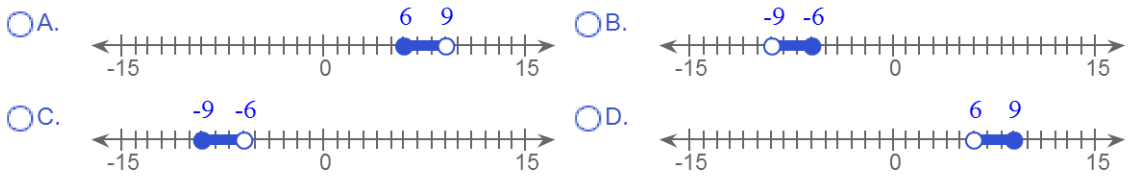
10 is 25% of what?

10 is 25% of ☐.
(Simplify your answer. Type an integer or a decimal.)

39. Graph the inequality on a number line.

$6 < y \leq 9$

Graph the solution set.



40. Solve using the addition principle and complete the answer in set-builder notation.

$$y + \frac{1}{7} \leq \frac{7}{14}$$

Select the correct choice below and fill in the answer box within your choice.

(Type an integer or a simplified fraction.)

A. The solution set is $\{y \mid y < \square\}$.

B. The solution set is $\{y \mid y > \square\}$.

C. The solution set is $\{y \mid y \leq \square\}$.

D. The solution set is $\{y \mid y \geq \square\}$.

41. Solve using the addition and multiplication principles.

$6 + 5w < -4$

Select the correct choice below and fill in the answer box within your choice.

(Simplify your answer.)

A. The solution set is $\{w \mid w > \square\}$.

B. The solution set is $\{w \mid w \geq \square\}$.

C. The solution set is $\{w \mid w < \square\}$.

D. The solution set is $\{w \mid w \leq \square\}$.

42. Solve using the addition and multiplication principles.

$3 - 4b < 2b + 9$

Select the correct choice below and fill in the answer box within your choice.

(Simplify your answer.)

A. The solution set is $\{b \mid b < \square\}$.

B. The solution set is $\{b \mid b \leq \square\}$.

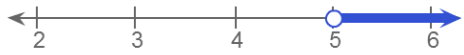
C. The solution set is $\{b \mid b > \square\}$.

D. The solution set is $\{b \mid b \geq \square\}$.

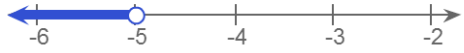
43. Solve using the multiplication principle. Then graph.

$-16x > -80$

Choose the correct solution set and graph.

A. 

$\{x \mid x > 5\}$

B. 

$\{x \mid x < -5\}$

C. 

$\{x \mid x < 5\}$

D. 

$\{x \mid x > -5\}$

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44. Solve using the addition and multiplication principles.

$6 - 10y > 21$

Select the correct choice below and fill in the answer box within your choice.

A. The solution set is $\{y \mid y \geq \square\}$. (Simplify your answer.)

B. The solution set is $\{y \mid y < \square\}$. (Simplify your answer.)

C. The solution set is $\{y \mid y > \square\}$. (Simplify your answer.)

D. The solution set is $\{y \mid y \leq \square\}$. (Simplify your answer.)

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45. Solve using the addition and multiplication principles.

$3 - 4p < 2p + 9$

Select the correct choice below and fill in the answer box within your choice.

(Simplify your answer.)

- A. The solution set is $\{p \mid p < \square\}$.
- B. The solution set is $\{p \mid p > \square\}$.
- C. The solution set is $\{p \mid p \geq \square\}$.
- D. The solution set is $\{p \mid p \leq \square\}$.

46. Meadow Vista Bottled Water estimates that $174,000 will be spent this year on delivery costs alone. If total sales are estimated at $683,000, what percent of total sales will be spent on delivery?

Meadow Vista will spend approximately ☐ % of total sales on delivery this year.
(Round to the nearest tenth of a percent, if necessary.)

47. Jack was 17 years older than Priscilla. Together their ages totaled 161 years. What were their ages?

Jack was ☐ years old.

Priscilla was ☐ years old.

48. The room numbers of two adjacent classrooms are two consecutive even numbers. If their sum is 610, find the classroom numbers.

The classroom numbers are ☐. (Use a comma to separate answers.)

49. A garden is shaped like a rectangle whose perimeter is 108 ft. The length is 10 ft more than the width. Find the length and the width.

The length is ☐ ft.
The width is ☐ ft.
(Simplify your answers. Type an integer or a decimal. Do not round.)

50. In a triangle, the measure of the first angle is three times the measure of the second angle. The measure of the third angle is 80° more than the measure of the second angle. Use the fact that the sum of the measures of the three angles of a triangle is 180° to find the measure of each angle.

The measure of the first angle is ☐°.

The measure of the second angle is ☐°.

The measure of the third angle is ☐°.