

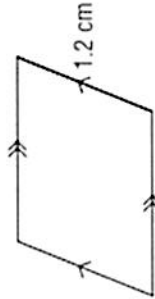
9. For each statement below, write then solve an equation to determine the number.
 A Verify the solution.

- a) Two times a number is -10 .
 b) Three times a number, plus 6.4, is 13.9.
 c) Four times a number is -8.8 .
 d) Ten is equal to two times a number, plus 3.6.

11. For each statement below, write then solve an equation to determine the number.
 A Verify the solution.

- a) A number divided by 4 is -7 .
 b) Three, plus a number divided by 5 is 6.
 c) One-half of a number is 2.5.
 d) One-third of a number, minus 4, is 2.

14. A parallelogram has one shorter side of length 1.2 cm and perimeter 6.6 cm.



- a) Write an equation that can be used to determine the length of the longer side.
 b) Solve the equation.
 c) Verify the solution.

9. Ten divided by a number is -3 . Write, then solve an equation to determine the number.
 A Verify the solution.

21. A large pizza with tomato sauce and cheese costs \$7.50, plus \$1.50 for each additional topping. A customer orders a large pizza and is charged \$16.50. How many toppings did the customer order?

- a) Write an equation to solve the problem.
 b) Solve the problem. Verify the solution.

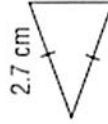
13. Five subtract 3 times a number is equal to 3.5 times the same number, subtract 8.

Write, then solve an equation to determine the number. Verify the solution.

3. Sheila is charged a fare of \$27.70 for a cab ride to her friend's house. The fare is calculated using a flat fee of \$2.50, plus \$1.20 per kilometre. What distance did Sheila travel?

- a) Let k kilometres represent the distance travelled. Write an equation to solve the problem. Solve the problem.
 b) Verify the solution.

4. An isosceles triangle has two equal sides of length 2.7 cm and perimeter 7.3 cm.



- a) Write an equation that can be used to determine the length of the third side.
 b) Solve the equation.
 c) Verify the solution.

23. The expression $180(n - 2)$ represents the sum of the interior angles in a polygon with n sides. Suppose the sum of its interior angles is 1080° . How many sides does the polygon have?

- a) Write an equation to solve the problem. **Solve it.**
 b) ~~Kyle solves the equation after using the distributive property to simplify $180(n - 2)$. Show the steps in Kyle's solution.~~

c) ~~Esa solves the equation by undoing the operations that were used to build the equation. Show the steps in Esa's solution.~~

d) ~~Whose method do you prefer? Explain.~~

12. Two rental halls are considered for a wedding.

Hall A costs \$50 per person.

Hall B costs \$2000, plus \$40 per person.

Determine the number of people for which the halls will cost the same to rent.

- a) Model this problem with an equation.
 b) Solve the problem.
 c) Verify the solution.

14. A part-time sales clerk at a store is offered two methods of payment.

Plan A: \$1500 per month with a

commission of 4% on his sales

Plan B: \$1700 per month with a

commission of 2% on his sales

Let s represent the sales in dollars.

a) Write an expression to represent the total earnings under Plan A.

b) Write an expression to represent the total earnings under Plan B.

c) Write an equation to determine the sales that result in the same total earnings from both plans.

d) Solve the equation. Explain what the answer represents.

Remember

$$4\% = 0.04$$

$$2\% = 0.02$$

Word Problem Answers.

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9. For each statement below, write then solve an equation to determine the number. Verify the solution.

a) Two times a number is -10 . $2n = -10$ $n = -5$

b) Three times a number, plus 6.4 , is 13.9 . $3n + 6.4 = 13.9$ $n = 2.5$

c) Four times a number is -8.8 . $4n = -8.8$ $n = -2.2$

d) Ten is equal to two times a number, plus 3.6 . $10 = 2n + 3.6$ $n = 3.2$

11. For each statement below, write then solve an equation to determine the number. Verify the solution.

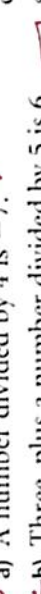
a) A number divided by 4 is -7 . $\frac{n}{4} = -7$ $n = -28$

b) Three, plus a number divided by 5 is 6 . $3 + \frac{n}{5} = 6$ $n = 15$

c) One-half of a number is 2.5 . $\frac{1}{2}n = 2.5$ $n = 5$

d) One-third of a number, minus 4 , is 2 . $\frac{1}{3}n - 4 = 2$ $n = 18$

14. A parallelogram has one shorter side of length 1.2 cm and perimeter 6.6 cm.



a) Write an equation that can be used to determine the length of the longer side.

b) Solve the equation. $1.2 + 1.2 + x + x = 6.6$

c) Verify the solution. $2.4 + 2x = 6.6$ $x = 2.1$

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9. Ten divided by a number is -3 . Write, then solve an equation to determine the number. Verify the solution.

$\frac{10}{x} = -3$ $x = -3.3$

21. A large pizza with tomato sauce and cheese costs $\$7.50$, plus $\$1.50$ for each additional topping. A customer orders a large pizza and is charged $\$16.50$. How many toppings did the customer order? $7.50 + 1.50x = 16.50$ $x = 6$

a) Write an equation to solve the problem.

b) Solve the problem. Verify the solution.

13. Five subtract 3 times a number is equal to 3.5 times the same number, subtract 8. $5 - 3n = 3.5n - 8$ $n = 2$

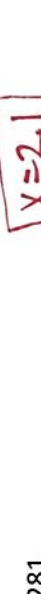
Write, then solve an equation to determine the number. Verify the solution.

3. Sheila is charged a fare of $\$27.70$ for a cab ride to her friend's house. The fare is calculated using a flat fee of $\$2.50$, plus $\$1.20$ per kilometre. What distance did Sheila travel? $2.50 + 1.20k = 27.70$ $k = 21$

a) Let k kilometres represent the distance travelled. Write an equation to solve the problem. Solve the problem.

b) Verify the solution.

4. An isosceles triangle has two equal sides of length 2.7 cm and perimeter 7.3 cm.



a) Write an equation that can be used to determine the length of the third side.

b) Solve the equation. $2.7 + 2.7 + x = 7.3$

c) Verify the solution. $5.4 + x = 7.3$ $x = 1.9$

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23. The expression $180(n - 2)$ represents the sum of the interior angles in a polygon with n sides. Suppose the sum of its interior angles is 1080° . How many sides does the polygon have? $180(n - 2) = 1080$ $n = 8$

a) Write an equation to solve the problem.

b) Kyler solves the equation after using the distributive property to simplify $180(n - 2)$. Show the steps in Kyler's solution.

c) Esta solves the equation by undoing the operations that were used to build the equation. Show the steps in Esta's solution.

d) Whose method do you prefer? Explain.

12. Two rental halls are considered for a wedding. Hall A costs $\$50$ per person. Hall B costs $\$2000$, plus $\$40$ per person. Determine the number of people for which the halls will cost the same to rent.

a) Model this problem with an equation.

b) Solve the problem.

c) Verify the solution.

14. A part-time sales clerk at a store is offered two methods of payment.

Plan A: $\$1500$ per month with a commission of 4% on his sales

Plan B: $\$1700$ per month with a commission of 2% on his sales

Let s represent the sales in dollars.

a) Write an expression to represent the total earnings under Plan A. $1500 + 0.04s$

b) Write an expression to represent the total earnings under Plan B. $1700 + 0.02s$

c) Write an equation to determine the sales that result in the same total earnings from both plans. $1500 + 0.04s = 1700 + 0.02s$

d) Solve the equation. Explain what the answer represents. $s = 10,000$