

7.EE.4 — Equations & Inequalities in the Real World

Expressions & Equations • Grade 7 • Word Problems • Set C • CCSS 7.EE.4

Name: _____

Date: _____

Read each word problem carefully, write the equation, and solve for the unknown variable.

1. Hana is saving money to buy a kite that costs \$15.00. Hana already has \$11.25 saved and writes the equation $x + 11.25 = 15.00$, where x is the amount still needed. How much more money does Hana need?

2. Priya bought several notebooks at \$3.00 each and spent a total of \$18.00. Using the equation $3n = 18.00$, where n is the number of notebooks, how many notebooks did Priya buy?

3. Six times a number, decreased by 8, equals 34. The equation $6n - 8 = 34$ models this situation. What is the number?

4. A picture frame has a perimeter of 50 inches. The width is 10 inches. Using the equation $2(l + 10) = 50$, where l is the length, find the length of the frame.

5. A cell phone plan charges a flat monthly fee of \$15 plus \$0.05 per text message. Last month's bill was \$18.65. Using $0.05m + 15 = 18.65$, where m is the number of texts sent, how many text messages were sent?

6. Ivan ran $\frac{1}{2}$ mile in the morning and some more miles in the afternoon, 3 miles in total. The equation $\frac{1}{2} + x = 3$ represents this. How far did Ivan run in the afternoon?

7. Yara is thinking of a number. When Yara multiplies it by 9 and adds 2, the result is 83. The equation $9x + 2 = 83$ represents this. What is the number Yara is thinking of?

8. 3 friends split a restaurant bill equally, and each person paid \$2.25. Using the equation $3x = 6.75$ to find the total bill, what was the total restaurant bill?

9. Priya has some money. After spending \$3.25 on lunch and \$4.50 on a snack, Priya has \$12.75 left. The equation $x - 3.25 - 4.50 = 12.75$ models this. How much money did Priya start with?

10. A plumber charges a flat fee of \$39 plus \$27 per hour. The total bill was \$120. The equation $27h + 39 = 120$ represents this situation, where h is the number of hours worked. How many hours did the plumber work?

11. A recipe calls for $\frac{7}{8}$ cup of sugar. Victor has already measured $\frac{2}{3}$ cup and writes $x + \frac{2}{3} = \frac{7}{8}$ to find how much more sugar is needed. How much more sugar does Victor need?

12. Xavier earns \$14.00 per hour at a part-time job and wants to know how many hours to work to earn \$126.00. Xavier sets up $14h = 126.00$. How many hours must Xavier work?

13. A school bus can carry 49 passengers. After some students get off at the first stop, 18 students remain. Using the equation $49 - x = 18$, where x is the number of students who got off, how many students got off at the first stop?

14. A rectangular garden has a length that is 6.9 meters more than its width. The length is 14.6 meters. Using the equation $w + 6.9 = 14.6$, where w is the width, find the width of the garden.

15. Noah is saving money to buy a game that costs \$12.50. Noah already has \$3.50 saved and writes the equation $x + 3.50 = 12.50$, where x is the amount still needed. How much more money does Noah need?

16. Noah bought several notebooks at \$3.25 each and spent a total of \$26.00. Using the equation $3.25n = 26.00$, where n is the number of notebooks, how many notebooks did Noah buy?

17. Four times a number, decreased by 9, equals 11. The equation $4n - 9 = 11$ models this situation. What is the number?

18. A picture frame has a perimeter of 60 inches. The width is 7 inches. Using the equation $2(l + 7) = 60$, where l is the length, find the length of the frame.

19. A cell phone plan charges a flat monthly fee of \$10 plus \$0.20 per text message. Last month's bill was \$24.60. Using $0.20m + 10 = 24.60$, where m is the number of texts sent, how many text messages were sent?

20. Ava ran $\frac{1}{2}$ mile in the morning and some more miles in the afternoon, 3 miles in total. The equation $\frac{1}{2} + x = 3$ represents this. How far did Ava run in the afternoon?

21. Elena is thinking of a number. When Elena multiplies it by 5 and adds 7, the result is 37. The equation $5x + 7 = 37$ represents this. What is the number Elena is thinking of?

22. 5 friends split a restaurant bill equally, and each person paid \$3.50. Using the equation $5x = 17.50$ to find the total bill, what was the total restaurant bill?

Answer Key

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1. $x = \$3.75$

2. $n = 6$ notebooks

3. $n = 7$

4. $l = 15$ inches

5. $m = 73$ text messages

6. $x = 2 \frac{1}{2}$ miles

7. $x = 9$

8. $x = \$6.75$

9. $x = \$20.50$

10. $h = 3$ hours

11. $x = \frac{5}{24}$ cup

12. $h = 9$ hours

13. $x = 31$ students

14. $w = 7.7$ meters

15. $x = \$9.00$

16. $n = 8$ notebooks

17. $n = 5$

18. $l = 23$ inches

19. $m = 73$ text messages

20. $x = 2 \frac{1}{2}$ miles

21. $x = 6$

22. $x = \$17.50$