

Grade 6 · One-Step Equations · Worksheet

Answer Key

Common Core 6.EE.B.5, 6.EE.B.6, 6.EE.B.7 · mathovore.fr

This answer key shows a full worked solution for each of the 20 problems on the one-step equations worksheet. Each solution names the inverse operation, and every final answer is in bold, so students can compare their work and find any slips.

Grade 6 Common Core: 6.EE.B.5 · 6.EE.B.6 · 6.EE.B.7

Problem 1: Is It a Solution

- a. $7+8=15$, which is true. **Yes, it is a solution.**
- b. $3\times 5=15$, and $15\neq 18$. **No, it is not a solution.**
- c. $3.5+2.5=6$, which is true. **Yes.**
- d. $4\times 2.5=10$, which is true. **Yes.**

Problem 2: Check the balance

- a. $9+11=20$, which is true. **Yes, it is a solution.**
- b. $5\times 6=30$, and $30\neq 35$. **No, it is not a solution.**
- c. $2.5+1.5=4$, which is true. **Yes.**
- d. $2\times 0.75=1.5$, which is true. **Yes.**

Problem 3: Addition Equations

- a. Subtract 9: $x=21-9=12$
- b. $x=30-14=16$
- c. $x=17-5=12$
- d. $x=50-26=24$

Problem 4: Multiplication Equations

- a. Divide by 6: $x=42\div 6=7$
- b. $x=72\div 9=8$
- c. $x=54\div 6=9$
- d. $x=60\div 12=5$

Problem 5: Larger addition equations

- a. Subtract 7: $x=19-7=12$

- b. Subtract 18: $x = 45 - 18 = 27$
- c. Subtract 12: $x = 31 - 12 = 19$
- d. Subtract 35: $x = 100 - 35 = 65$

Problem 6: Larger multiplication equations

- a. Divide by 8: $x = 56 \div 8 = 7$
- b. Divide by 11: $x = 99 \div 11 = 9$
- c. Divide by 9: $x = 72 \div 9 = 8$
- d. Divide by 15: $x = 90 \div 15 = 6$

Problem 7: Addition with Decimals

- a. $x = 9.1 - 3.4 = 5.7$
- b. $x = 2.5 - 0.75 = 1.75$
- c. $x = 12.6 - 4.9 = 7.7$
- d. $x = 0.5 - 0.08 = 0.42$

Problem 8: Decimal sums

- a. $x = 10.1 - 6.3 = 3.8$
- b. $x = 1.2 - 0.45 = 0.75$
- c. $x = 9.4 - 2.7 = 6.7$
- d. $x = 1 - 0.15 = 0.85$

Problem 9: Multiplication with Decimals

- a. $x = 12.5 \div 5 = 2.5$
- b. $x = 3.2 \div 0.4 = 8$
- c. $x = 9 \div 1.5 = 6$
- d. $x = 6 \div 0.25 = 24$

Problem 10: Decimal products

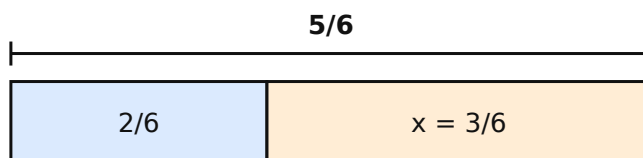
- a. $x = 18.6 \div 4 = 4.65$
- b. $x = 2.4 \div 0.3 = 8$
- c. $x = 15 \div 2.5 = 6$
- d. $x = 0.9 \div 0.6 = 1.5$

Problem 11: Equations with Fractions

- a. $x = \frac{7}{8} - \frac{1}{4} = \frac{7}{8} - \frac{2}{8} = \frac{5}{8}$
- b. $x = 1 - \frac{2}{5} = \frac{5}{5} - \frac{2}{5} = \frac{3}{5}$
- c. $x = \frac{3}{4} \div 3 = \frac{3}{4} \times \frac{1}{3} = \frac{1}{4}$
- d. $x = \frac{3}{8} \div \frac{1}{2} = \frac{3}{8} \times 2 = \frac{6}{8} = \frac{3}{4}$

Problem 12: Fraction equations on a tape

- a. $x = \frac{5}{6} - \frac{1}{3} = \frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$
b. $x = \frac{4}{5} - \frac{3}{10} = \frac{8}{10} - \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$
c. $x = \frac{2}{3} \div 4 = \frac{2}{3} \times \frac{1}{4} = \frac{2}{12} = \frac{1}{6}$
d. $x = \frac{4}{9} \div \frac{2}{3} = \frac{4}{9} \times \frac{3}{2} = \frac{12}{18} = \frac{2}{3}$



$$x = 5/6 - 2/6 = 3/6 = 1/2$$

Part (a) solved on the tape.

Problem 13: Writing Equations

- a. $n + 7 = 25$, so $n = 25 - 7 = 18$
b. $6n = 4.2$, so $n = 4.2 \div 6 = 0.7$
c. $n + \frac{3}{4} = 2$, so $n = 2 - \frac{3}{4} = \frac{8}{4} - \frac{3}{4} = \frac{5}{4}$, or $1\frac{1}{4}$
d. $8n = 100$, so $n = 100 \div 8 = 12.5$

Problem 14: Sentences to equations

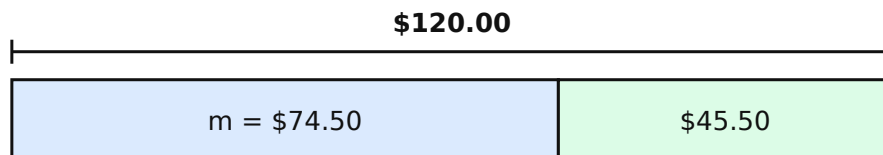
- a. $n + 9.5 = 14$, so $n = 14 - 9.5 = 4.5$
b. $5n = 3.5$, so $n = 3.5 \div 5 = 0.7$
c. $n + \frac{3}{5} = 1$, so $n = 1 - \frac{3}{5} = \frac{5}{5} - \frac{3}{5} = \frac{2}{5}$
d. $0.4n = 10$, so $n = 10 \div 0.4 = 25$

Problem 15: Club donation

The original amount plus the donation equals the new total: $m + 45.50 = 120.00$.

Subtract 45.50: $m = 120.00 - 45.50 = 74.50$. Check: $74.50 + 45.50 = 120.00$.

Answer: \$74.50



$$m = 120.00 - 45.50 = 74.50$$

The club started with \$74.50.

Problem 16: Team caps

Twelve caps at c dollars each cost \$102: $12c = 102$.

Divide by 12: $c = 102 \div 12 = 8.5$. Check: $12 \times 8.5 = 102$.

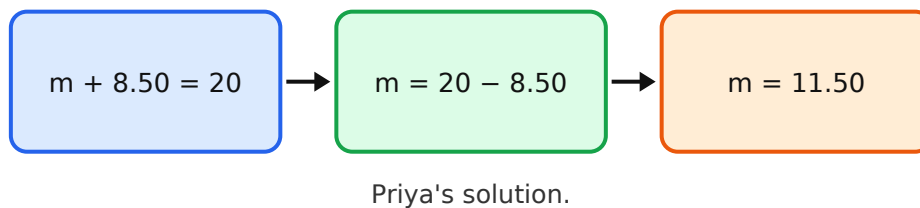
Answer: \$8.50 **per cap**

Problem 17: School Store Savings

Let m be the dollars she had at first: $m + 8.50 = 20.00$.

Subtract 8.50: $m = 20.00 - 8.50 = 11.50$. Check: $11.50 + 8.50 = 20.00$.

Answer: \$11.50

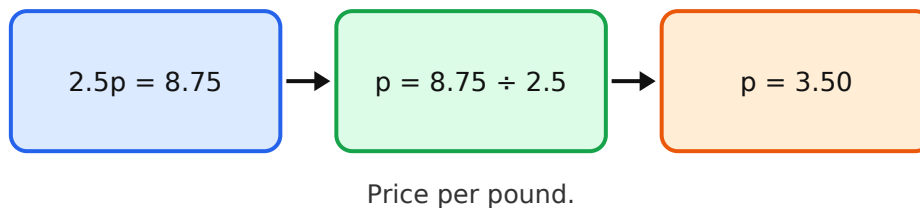


Problem 18: Farmers Market Apples

The cost of 2.5 pounds at p dollars per pound is $2.5p = 8.75$.

Divide by 2.5: $p = 8.75 \div 2.5 = 3.5$. Check: $2.5 \times 3.5 = 8.75$.

Answer: \$3.50 **per pound**

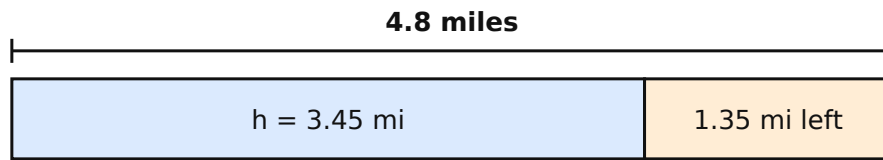


Problem 19: Trail hike

a. $h + 1.35 = 4.8$, so $h = 4.8 - 1.35 = 3.45$ **miles**

b. Distance equals speed times time: $1.5s = 3.45$, so $s = 3.45 \div 1.5 = 2.3$ **miles per hour**

c. $1.5 \times 2.3 = 3.45$, which matches the distance hiked. The solution is **correct**.

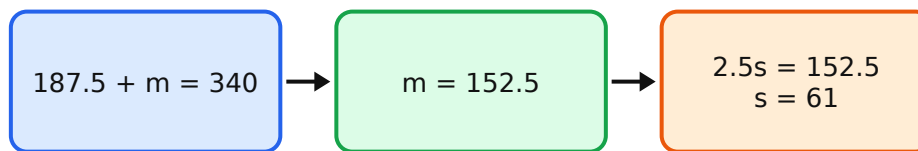


$$h = 4.8 - 1.35 = 3.45$$

Sofia has hiked 3.45 miles.

Problem 20: Road Trip

- a. $187.5 + m = 340$, so $m = 340 - 187.5 = 152.5$ **miles**
- b. Distance equals speed times time: $2.5s = 152.5$, so $s = 152.5 \div 2.5 = 61$ **miles per hour**
- c. $2.5 \times 61 = 152.5$, which matches the distance left. The solution is **correct**.



Road trip solution.