

Chapter 7 Test Study Guide

Identify the solution of each equation from the list given.

20. $a + 15 = 23$; 6, 7, 8 8
 Try 6. $6 + 15 \neq 23$ Try 7. $7 + 15 \neq 23$ Try 8. $8 + 15 = 23 \checkmark$

Homework Help →

21. $19 = p - 12$; 29, 30, 31 31
 $19 \stackrel{?}{=} 29 - 12$ $19 \stackrel{?}{=} 30 - 12$ $19 \stackrel{?}{=} 31 - 12$
 $19 \neq 17$ $19 \neq 18$ $19 = 19 \checkmark$

22. $63 = 9k$; 6, 7, 8 7
 $63 \neq 9(6) \times$
 $63 = 9(7) \checkmark$
 $63 \neq 9(8) \times$

23. $36 \div s = 4$; 9, 10, 11 9
 $36 \div 9 = 4 \checkmark$
 $36 \div 10 \neq 4$
 $36 \div 11 \neq 4$

Solve each equation mentally.

24. $j + 7 = 13$
 $6 + 7 = 13$
 $j = 6$

25. $22 = 30 - m$
 $22 = 30 - 8$
 $m = 8$

26. $25 - k = 20$
 $25 - 5 = 20$
 $k = 5$

27. $5m = 25$
 $5(5) = 25$
 $m = 5$

28. $d \div 3 = 6$
 $18 \div 3 = 6$
 $d = 18$

29. $24 = 12k$
 $24 = 12(2)$
 $k = 2$

CCSS Identify Structure For Exercises 30–32, solve using mental math or the guess, check, and revise strategy.

30. Gabriella made 36 cookies. She gave away 28 cookies. Use the equation $28 + c = 36$ to find c , the number of cookies she kept.

$28 + 8 = 36$ $c = 8$ cookies

31. The Lee family ate a total of 12 hotdogs at a cookout. Each family member ate 2 hotdogs. Use the equation $2m = 12$ to find m , the number of members in the Lee family.

$2(6) = 12$ $m = 6$ members

32. A bottlenose dolphin is 96 inches long. There are 12 inches in 1 foot. Use the equation $12d = 96$ to find d , the length of the bottlenose dolphin in feet.

$12(8) = 96$ $d = 8$ feet

Match each equation with its solution.

1. $8x = 128$ **D**

a. $x = 68$

2. $13 + x = 29$ **D**

b. $x = 39$

3. $72 = 3x$ **E**

c. $x = 18$

4. $x - 22 = 17$ **B**

d. $x = 16$

5. $\frac{x}{4} = 17$ **A**

e. $x = 24$

6. $x - 18 = 33$ **F**

f. $x = 51$

Solve the equation by isolating the variable (the way Mrs. Galante showed you). Check your solution. Show all steps!

1) $4 + u = 17$
~~-4~~ -4

 $u = 13$

$4 + 13 = 17$ ✓

2) $b - 7 = 12$
~~+7~~ +7

 $b = 19$

$19 - 7 = 12$ ✓

3) $14 = v - 14$
~~+14~~ +14

 $28 = v$

$14 = 28 - 14$
 $14 = 14$ ✓

4) $19 + a = 34$
~~-19~~ -19

 $a = 15$

$19 + 15 = 34$
 $34 = 34$ ✓

5) $11.7 + b = 15.1$
~~-11.7~~ -11.7

 $b = 3.4$

$11.7 + 3.4 = 15.1$
 $15.1 = 15.1$ ✓

6) $x - 7.1 = 9.3$
~~+7.1~~ +7.1

 $x = 16.4$

$16.4 - 7.1 = 9.3$
 $9.3 = 9.3$ ✓

7) $6\frac{7}{8} = w - 2\frac{5}{12}$
~~+2 $\frac{5}{12}$~~ +2 $\frac{5}{12}$

 $9\frac{7}{24} = w$

$6\frac{21}{24}$
 $+ 2\frac{10}{24}$

 $8\frac{31}{24} = 9\frac{7}{24}$

8) $75 = t + 10.084$
~~-10.084~~ -10.084

75.000
~~-10.084~~

 $64.916 = t$

9) $p + 7 = 11\frac{1}{9}$
~~-7~~ -7

 $p = 4\frac{1}{9}$

$4\frac{1}{9} + 7 = 11\frac{1}{9}$ ✓

$$10) \quad b - \frac{2}{3} = \frac{5}{6}$$

$$\quad \quad \quad + \frac{2}{3} \quad + \frac{4}{6}$$

$$b = \frac{9}{6} = 1\frac{1}{2}$$

$$\frac{9}{6} - \frac{4}{6} = \frac{5}{6} \checkmark$$

$$11) \quad \frac{8b}{8} = \frac{46}{8}$$

$$b = 5\frac{6}{8}$$

$$b = 5\frac{3}{4}$$

$$8 \times 5\frac{3}{4} = 46$$

$$\frac{8}{1} \times \frac{23}{4} = \frac{46}{1} \checkmark$$

$$12) \quad \frac{90}{15} = \frac{15k}{15}$$

$$\boxed{6 = k}$$

$$90 = 15(6) \checkmark$$

$$13) \quad (16) \frac{8}{16} = \frac{h}{16}$$

$$\boxed{128 = h}$$

$$8 = \frac{128}{16} \checkmark$$

$$\begin{array}{r} 8 \\ 16 \overline{) 128} \\ \underline{128} \\ 0 \end{array}$$

$$14) \quad (2) \frac{z}{2} = 12.5 (2)$$

$$\boxed{z = 25}$$

$$\frac{25}{2} = 12.5 \checkmark$$

$$15) \quad 16 = \frac{4}{5}p$$

$$\frac{4}{5} \frac{4}{5}$$

$$16 \div \frac{4}{5} = \frac{16}{1} \times \frac{5}{4} = \frac{20}{1}$$

$$\boxed{20 = p}$$

$$\frac{16}{1} = \frac{4}{5} \times \frac{20}{1} \checkmark$$

$$16) \quad 3.5m = 182$$

$$\frac{3.5}{3.5} \frac{3.5}{3.5}$$

$$\boxed{m = 52}$$

$$\begin{array}{r} 3.5 \overline{) 1820} \\ \underline{-1750} \\ 70 \\ \underline{-70} \\ 0 \end{array}$$

$$3.5(52) = 182$$

$$52 \times 3.5 = 182 \checkmark$$

$$\begin{array}{r} 52 \\ \times 3.5 \\ \hline 260 \\ +1560 \\ \hline 1820 \end{array}$$

$$17) \quad 1\frac{1}{2}c = 6$$

$$\frac{3}{2}c = 6$$

$$\frac{3}{2} \frac{2}{2} \frac{2}{2}$$

$$\frac{3}{2} \times \frac{4}{1} = \frac{6}{1}$$

$$b = 6 \checkmark$$

$$\frac{6}{1} \div \frac{3}{2} = \frac{6}{1} \times \frac{2}{3}$$

$$\boxed{c = 4}$$

$$18) \quad (6.2) 3.7 = \frac{k}{6.2}$$

$$6.2 \times 3.7 = k$$

$$\begin{array}{r} 6.2 \\ \times 3.7 \\ \hline 434 \\ +1860 \\ \hline 2294 \end{array}$$

$$\boxed{k = 22.94}$$

$$3.7 = \frac{22.94}{6.2}$$

$$3.7 = 3.7 \checkmark$$

$$\begin{array}{r} 6.2 \overline{) 229.4} \\ \underline{-186} \\ 434 \\ \underline{-434} \\ 0 \end{array}$$

$$19) \quad 39 = 1\frac{3}{10}b$$

$$\frac{39}{1} \div \frac{13}{10}$$

$$= \frac{39}{1} \times \frac{10}{13}$$

$$39 = \frac{13}{10}b$$

$$\frac{13}{10} \frac{10}{10}$$

$$\frac{13}{10} \frac{13}{10}$$

$$\boxed{30 = b}$$

Check:

$$\frac{39}{1} = \frac{13}{10} \times \frac{30}{1}$$

$$20) \quad 2.55d = 17.85$$

$$\frac{2.55}{2.55} \frac{2.55}{2.55}$$

$$\frac{2.55}{1} \times \frac{7}{7} = \frac{17.85}{7}$$

$$\frac{17.85}{2.55} = \frac{7}{1}$$

$$\boxed{d = 7}$$

$$2.55(7) = 17.85$$

$$17.85 = 17.85 \checkmark$$

$$21) \quad 2\frac{1}{4}w = 6\frac{3}{4}$$

$$\frac{9}{4}w = \frac{27}{4}$$

$$\frac{9}{4} \frac{4}{4}$$

$$\frac{27}{4} \div \frac{9}{4}$$

$$3 \frac{27}{4} \times \frac{4}{9}$$

$$\boxed{w = 3}$$

$$\frac{9}{4} \times \frac{3}{1} = \frac{27}{4} \checkmark$$

For problems 22 – 25, write an equation to represent the situation. Then solve the equation.

- 22) You have 17 CDs on a shelf. You received five of those CDs today as birthday presents. Write and solve an addition equation to find c , the number of CDs you had before your birthday.

Equation: $c + 5 = 17$ $c = 12$ CDs

$$\begin{array}{r} c + 5 = 17 \\ -5 \quad -5 \\ \hline c = 12 \end{array} \quad 12 + 5 = 17 \checkmark$$

- 23) You earn d dollars for sixteen hours of work at a rate of \$5 per hour. Write and solve a division equation to find the amount of money you earn.

Equation: $\frac{d}{16} = 5$ or $\frac{d}{5} = 16$ $d = \$80$

$$\begin{array}{l} \cancel{16} \frac{d}{\cancel{16}} = 5(16) \\ \frac{80}{16} = 5 \checkmark \end{array}$$

- 24) You pay \$24.50 for shoes after an \$8 discount. Write and solve a subtraction equation to find s , the original price for the shoes.

Equation: $s - 8 = 24.50$ $s = \$32.50$

$$\begin{array}{r} s - 8 = 24.50 \\ +8 \quad + 8.00 \\ \hline s = 32.50 \end{array} \quad 32.50 - 8 = 24.50 \checkmark$$

- 25) Lauren pays \$34 for four books. Write a multiplication equation to find, p , the price of each book.

Equation: $4p = 34$ $p = \$8.50$

$$\begin{array}{l} \frac{4p}{4} = \frac{34}{4} \\ p = 8\frac{1}{2} \end{array} \quad \begin{array}{l} 4(8\frac{1}{2}) = 34 \\ \frac{24}{1} \times \frac{17}{2} = \frac{34}{1} \checkmark \end{array}$$