Name _____ Date _____ Class _____

Circle the letter of the correct answer.

1. If $7.2 + x = 9.7$, what is the value of x?

   A 16.9

   B 2.5

   C 2.9

   D 16.5

2. If $n \div 4 = 0.4$, what is the value of n?

   F 4.4

   G 0.1

   H 1.6

   J 10

Solve each equation. Check your answer.

3. $a - 0.4 = 1.3$

   _____

4. $2n = 1.8$

   _____

5. $0.8 + x = 1.3$

   _____

6. $p \div 4 = 0.7$

   _____

7. $w - 2.3 = 1.2$

   _____

8. $0.5q = 0.25$

   _____

9. $5.7 + s = 6.0$

   _____

10. $b \div 3 = 0.6$

   _____

11. $t - 3.1 = 1.6$

   _____

12. $3y = 1.5$

   _____

13. The length of a photograph is 2.1 inches, and the width is 3 inches. Solve the equation $a \div 2.1 = 3$ to find the area of the photograph.

   _____

14. It costs $0.90 to enlarge each photograph. If you want to enlarge 5 photos, how much will it cost in all?

   _____

Holt Middle School Math   **Course 1**

Exploration Recording Sheet
Solving Decimal Equations

For each equation, estimate the solution. Then use a calculator to solve the equation. Compare the calculated solution with your estimated solution.

		Estimate	Actual
1.	$1.25 + x = 10$	$10 - 1 = 9$	$x = 8.75$
2.	$20 - x = 1.95$	$20 - 2 = 18$	$x = 18.05$
3.	$6x = 15$	$\frac{18}{6} = 3$	$x = 2.5$
4.	$\frac{x}{4.5} = 10$	$4.5 \times 10 = 45$	$x = 45$
5.	$\frac{x}{100} = 1.609$	$1.6 \times 100 = 160$	$x = 160.9$

6. Write a real-world situation for each equation in Exercises **1–5.** **Check students' work.**

Think and Discuss

7. Explain which equation it was easiest to estimate a solution for and which equation it was most difficult to estimate a solution for.

Possible answer: 4 and 5 were easiest to estimate, because you could just move the decimal point. 1, 2, and 3 were most difficult.

8. Discuss whether the estimated or the calculated solutions are more reasonable for the real-world situations you wrote in Exercise **6**.

Check students' work.

Holt Middle School Math   Course 1

Practice A
Decimal Equations

Circle the letter of the correct answer.

1. If $7.2 + x = 9.7$, what is the value of x?
A 16.9
B 2.5 (circled)
C 2.9
D 16.5

2. If $n \div 4 = 0.4$, what is the value of n?
F 4.4
G 0.1
H 1.6 (circled)
J 10

Solve each equation. Check your answer.

3. $a - 0.4 = 1.3$

$a = 1.7; 1.7 - 0.4 = 1.3$

4. $2n = 1.8$

$n = 0.9; 2 \cdot 0.9 = 1.8$

5. $0.8 + x = 1.3$

$x = 0.5; 0.8 + 0.5 = 1.3$

6. $p \div 4 = 0.7$

$p = 2.8; 2.8 \div 4 = 0.7$

7. $w - 2.3 = 1.2$

$w = 3.5; 3.5 - 2.3 = 1.2$

8. $0.5q = 0.25$

$q = 0.5; 0.5 \cdot 0.5 = 0.25$

9. $5.7 + s = 6.0$

$s = 0.3; 5.7 + 0.3 = 6.0$

10. $b \div 3 = 0.6$

$b = 1.8; 1.8 \div 3 = 0.6$

11. $t - 3.1 = 1.6$

$t = 4.7; 4.7 - 3.1 = 1.6$

12. $3y = 1.5$

$y = 0.5; 3 \cdot 0.5 = 1.5$

13. The length of a photograph is 2.1 inches, and the width is 3 inches. Solve the equation $a \div 2.1 = 3$ to find the area of the photograph.

$a = 6.3$ square inches

14. It costs $0.90 to enlarge each photograph. If you want to enlarge 5 photos, how much will it cost in all?

$4.50

Holt Middle School Math   Course 1

Practice B
Decimal Equations

Solve each equation. Check your answer.

1. $a - 2.7 = 4.8$

$a = 7.5; 7.5 - 2.7 = 4.8$

2. $b \div 7 = 1.9$

$b = 13.3; 13.3 \div 7 = 1.9$

3. $w - 6.5 = 3.8$

$w = 10.3; 10.3 - 6.5 = 3.8$

4. $p \div 0.4 = 1.7$

$p = 0.68; 0.68 \div 0.4 = 1.7$

5. $4.5 + x = 8$

$x = 3.5; 4.5 + 3.5 = 8$

6. $b \div 3 = 2.5$

$b = 7.5; 7.5 \div 3 = 2.5$

7. $7.8 + s = 15.2$

$s = 7.4; 7.8 + 7.4 = 15.2$

8. $1.63q = 9.78$

$q = 6; 1.63 \cdot 6 = 9.78$

9. $0.05 + x = 2.06$

$x = 2.01; 0.05 + 2.01 = 2.06$

10. $1.7n = 2.38$

$n = 1.4; 1.7 \cdot 1.4 = 2.38$

11. $t - 6.08 = 12.59$

$t = 18.67; 18.67 - 6.08 = 12.59$

12. $9q = 16.2$

$q = 1.8; 9 \cdot 1.8 = 16.2$

13. $w - 8.9 = 10.3$

$w = 19.2; 19.2 - 8.9 = 10.3$

14. $1.4n = 3.22$

$n = 2.3; 1.4 \cdot 2.3 = 1.3$

15. $t - 12.7 = 0.8$

$t = 13.5; 13.5 - 12.7 = 0.8$

16. $3.8 + a = 6.5$

$a = 2.7; 3.8 + 2.7 = 6.5$

17. The distance around a square photograph is 12.8 centimeters. What is the length of each side of the photograph?

3.2 centimeters

18. You buy two rolls of film for $3.75 each. You pay with a $10 bill. How much change should you get back?

$2.50

Holt Middle School Math   Course 1

Practice C
Decimal Equations

Solve each equation. Check your answer.

1. $a - 0.089 = 12.5$

$a = 12.589;$
$12.589 - 0.089 = 12.5$

2. $b \div 2.8 = 4.7$

$b = 13.16; 13.16 \div 2.8 = 4.7$

3. $w - 12.76 = 15.8$

$w = 28.56;$
$28.56 - 12.76 = 15.8$

4. $p \div 0.07 = 4.76$

$p = 0.3332;$
$0.3332 \div 0.07 = 4.76$

5. $1.7806 + x = 2.009$

$x = 0.2284;$
$1.7806 + 0.2284 = 2.009$

6. $b \div 6.5 = 9.7$

$b = 63.05; 63.05 \div 6.5 = 9.7$

7. $8.3044 + s = 16.01$

$s = 7.7056;$
$8.3044 + 7.7056 = 16.01$

8. $0.009q = 0.765$

$q = 85;$
$0.009 \cdot 85 = 0.765$

9. $23.764 + x = 30.5$

$x = 6.736;$
$23.764 + 6.736 = 30.5$

10. $1.7n + 3.8 = 7.71$

$n = 2.3;$
$1.7 \cdot 2.3 + 3.8 = 7.71$

11. $t - (8^2 + 0.36) = 0.5$

$t = 64.86;$
$64.86 - 64.36 = 0.5$

12. $9q + 0.2q = 27.6$

$q = 3; 9.2 \cdot 3 = 27.6$

13. $8.4w - 0.67 = 15.29$

$w = 1.9;$
$(8.4 \cdot 1.9) - 0.67 = 15.29$

14. $1.4n + 4^3 = 85$

$n = 15;$
$(1.4 \cdot 15) + 64 = 85$

15. Andy bought 15 pounds of apples for $0.69 a pound, and 7.2 pounds of grapes for $3.65 a pound. He paid for the entire purchase with a $50 bill. How much change did he get back? He wants to make 25 pounds of fruit salad for the party. How much more fruit does he need?

$13.37; 2.8 pounds

16. Brenda's garden is 6.5 feet long and 8.76 feet wide. She uses half of the garden for vegetables. Then she equally divides the rest of the garden between flowers and herbs. How large is her vegetable garden? How much land does she use for growing flowers?

28.47 square feet;

14.235 square feet

Holt Middle School Math   Course 1

Holt Middle School Math   Course 1