SOLVE 1-STEP EQUATIONS (+/−)

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

Addition and subtraction are inverse operations.

$9 + 6 = 15$ so $15 - 6 = 9$

Use the inverse to find a missing number.

15	
9	6

1 Write the missing number.

a) ☐ + 7 = 12

b) 20 − ☐ = 14

c) 18 = ☐ + 10

d) ☐ − 9 = 11

2 Work backwards to find each input.

a) ☐ → + 6 → 15

b) ☐ → − 4 → 13

c) ☐ → + 25 → 60

3 Find the missing number in each bar model.

a)

34	
☐	12

b)

☐	
19	27

4 Solve these problems.

a) Sami has some marbles. He is given 14 more. Now he has 31. How many marbles did he have to start with? ☐

b) A ribbon is 50 cm long. Some is cut off. Now it is 32 cm long. How much was cut off? ☐ cm

SOLVE 1-STEP EQUATIONS (+/−)

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

To solve an equation, use the inverse operation.

$x + 7 = 19$ so $x = 19 - 7 = 12$

Check: $12 + 7 = 19$ ✓

19	
x	7

1 Use each bar model to solve the equation.

a)

41	
a	16

$a + 16 = 41$

$a =$ ☐

b)

t	
23	9

$t - 23 = 9$

$t =$ ☐

2 Solve each equation.

a) $x + 9 = 25$ $x =$ ☐

b) $y - 6 = 14$ $y =$ ☐

c) $m + 13 = 40$ $m =$ ☐

d) $p - 21 = 30$ $p =$ ☐

3 Write an equation for each function machine. Then solve it.

a) x → + 15 → 52 Equation: ..... $x =$ ☐

b) y → − 8 → 27 Equation: ..... $y =$ ☐

4 Is $k = 12$ a solution of each equation? Circle yes or no.

a) $k + 9 = 21$ YES NO

b) $k - 5 = 8$ YES NO

c) $30 - k = 18$ YES NO

SOLVE 1-STEP EQUATIONS (+/−)

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Use the inverse operation to solve an equation. The unknown can be on either side of the equals sign, e.g. 124 = c + 58. Always check by substituting your solution back in.

FLUENCY

1 Solve each equation.

a) **a + 37 = 81** a = ☐

b) **b − 2.6 = 4.9** b = ☐

c) **124 = c + 58** c = ☐

d) **15.3 = d − 7.8** d = ☐

e) **45 + e = 112** e = ☐

f) **72 − f = 35** f = ☐

2 Form and solve an equation for each problem.

a) I think of a number and add 3.75. The answer is 10. What is my number? ☐

b) Write and solve an equation to find x.



Equation: .....

x = ☐°

REASONING

3 Raj solves x − 9 = 2 like this:

x − 9 = 2
x = 9 − 2 = 7

a) Show that x = 7 is not correct.

.....

b) What is the correct solution? ☐

4 Explain why 20 − y = 6 and y − 20 = 6 have different solutions.

.....

.....

SOLVE 1-STEP EQUATIONS (+/−)

GREATER DEPTH

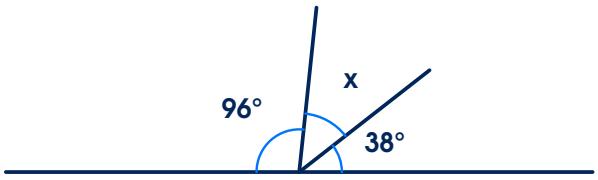
NAME _____ CLASS _____ DATE _____

PROBLEM SOLVING

1 Form and solve an equation for each problem.

a) I subtract a number from 50. The answer is 13.8. What is the number? ☐

b) Write and solve an equation to find x.



Equation: .....

x = ☐°

2 The solution of an equation is x = 4.7. Write

a) an equation that uses + ...

b) an equation that uses – .....

c) an equation that has x on the right .....

3 Find the value of each letter.

a + 14.5 = 30 **b – a = 8.25** **c + b = 50**

a = ☐ b = ☐ c = ☐

★ CHALLENGE FOR ALL

4 Find the value of each letter. Work in the order that helps you.

p + 27 = 63 **q – p = 19** **100 – r = q** **s – r = p**

p = ☐ q = ☐ r = ☐ s = ☐

Which letter has the greatest value? ☐

SOLVE 1-STEP EQUATIONS (+/–)

ANSWERS

BUILDING BLOCKS

1 a) 5 · b) 6 · c) 8 · d) 20
2 a) 9 · b) 17 · c) 35
3 a) 22 · b) 46
4 a) 17 marbles · b) 18 cm

SUPPORT

1 a) $a = 25$ · b) $t = 32$
2 a) $x = 16$ · b) $y = 20$ · c) $m = 27$ · d) $p = 51$
3 a) $x + 15 = 52$, $x = 37$ · b) $y - 8 = 27$, $y = 35$
4 a) yes ($12 + 9 = 21$) · b) no ($12 - 5 = 7$) · c) yes ($30 - 12 = 18$)

CORE

1 a) 44 · b) 7.5 · c) 66 · d) 23.1 · e) 67 · f) 37
2 a) $n + 3.75 = 10$, $n = 6.25$ · b) $x + 127 = 180$, $x = 53°$
3 a) $7 - 9 = -2$, not 2 · b) $x = 11$ (the inverse of -9 is $+9$)
4 $20 - y = 6$ gives $y = 14$ ($20 - 14 = 6$); $y - 20 = 6$ gives $y = 26$ ($26 - 20 = 6$). Subtraction is not commutative, so the order matters.

GREATER DEPTH

1 a) $50 - n = 13.8$, so $n = 50 - 13.8 = 36.2$ · b) $x + 38 + 96 = 180$, so $x + 134 = 180$ and $x = 46°$
2 e.g. $x + 2.3 = 7$ · $x - 1.7 = 3$ · $10 = x + 5.3$
3 $a = 15.5$ · $b = 23.75$ · $c = 26.25$
4 $p = 36$ · $q = 55$ · $r = 45$ · $s = 81$ · s has the greatest value