Homework/Extension
Step 6: Forming Equations

Teaching note:

Concrete manipulatives may be useful for the Developing and Expected levels of this resource.

National Curriculum Objectives:

Mathematics Year 6: (6A1) Express missing number problems algebraically

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Match each word problem to the correct algebraic equation. Includes all four operations and whole numbers (no greater than 10).
Expected Match each word problem to the correct algebraic equation. Includes all four operations and whole numbers, with some decimals and fractions.
Greater Depth Match each word problem to the correct algebraic equation and complete the equation. Includes all four operations; whole and negative numbers; and decimals and fractions.

Questions 2, 5 and 8 (Varied Fluency)
Developing Write an algebraic equation to match the information given. Includes all four operations and whole numbers (no greater than 10).
Expected Write an algebraic equation to match the information given. Includes all four operations and whole numbers, with some decimals and fractions.
Greater Depth Write an algebraic equation to match the information given. Includes all four operations; whole and negative numbers; and decimals and fractions.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Explain whether the information matches the given equation. Includes all four operations and whole numbers (no greater than 10).
Expected Explain whether the information matches the given equation. Includes all four operations and whole numbers, with some decimals and fractions.
Greater Depth Explain whether the information matches the given equation. Includes all four operations; whole and negative numbers; and decimals and fractions.

More Year 6 Algebra resources.

Did you like this resource? Don't forget to review it on our website.

Forming Equations

1. Match each word problem to the correct algebraic equation.

A. Candy thinks of a number and divides it by 5. Her answer is 10.	$n + 5 = 10$
B. Toby thinks of a number and multiplies it by 5. His answer is 10.	$n \div 5 = 10$
C. Frankie thinks of a number and adds on 5 more. Her answer is 10.	$5n = 10$

D

VF
HW/Ext

2. Write algebraic equations to match the information below.

A. Bob the baker shares his bread rolls (r) equally into 2 bags. Each bag contains 4 bread rolls.

B. Pedro the pizza guy drops 2 pizzas (p) off the back of his scooter. He has 6 pizzas left.

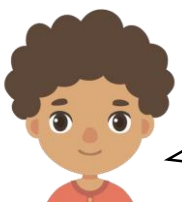
C. Milly the farmer milks the cows (c). After breakfast, she milks 3 more. She has milked 9 cows in total.

D

VF
HW/Ext

3. Leon thinks that his story matches the equation below.

$6n = 24$



I think of a number and divide it by 6.
The answer is 24.

Is Leon correct? Explain why.

D

RPS
HW/Ext

Forming Equations

4. Match each word problem to the correct algebraic equation.

A. Haz thinks of a number. He divides it by 2. The answer is 20.5.	$9n - 2 = 20.5$
B. Jassy thinks of a number. She adds 20.5. Her answer is 22.5.	$n \div 2 = 20.5$
C. Po thinks of a number. He multiplies it by 9 and subtracts 2. His answer is 20.5.	$n + 20.5 = 22.5$

E

VF
HW/Ext

5. Write algebraic equations to match the information below.

A. Ben is making biscuits (b). He shares them between 6 people. They each get 5 biscuits.

B. Paulo has a bag of sweets (s). He is given 6 more. He has 15 sweets in total.

C. Lenny thinks of a number (n). He multiplies it by $\frac{1}{2}$ and then subtracts 4. His answer is 6.

E

VF
HW/Ext

6. Ellie thinks that her story matches the equation below.

$$m \div 4 - 1 = 5$$

I have some marbles. I share them between 4 friends. Then, I give each friend one more marble. My friends end up with 5 marbles each.

Is Ellie correct? Explain why.

E

RPS
HW/Ext

Forming Equations

7. Match each word problem to the correct algebraic equation and complete it.

A. Sandy thinks of a number. She adds 4 and subtracts 10. Her answer is -3.	$n + \square - 10 = -3$
B. Lena thinks of a number. She multiples it by 4 and subtracts 15. Her answer is -3	$n \div 4 - \square = -3$
C. Oscar thinks of a number. He divides it by 4 and subtracts 10. His answer is -3.	$4n - \square = -3$

GD

VF
HW/Ext

8. Write algebraic equations to match the information below.

A. Sasha's answer is -4. To get this answer, she multiplied a number (n) by 0.5 and then subtracted 6.

B. Helena's answer is 0.25. To get this answer, she divided a number (n) by 8 and then subtracted 3.

C. Joe's answer is 10. To get this answer, he multiplied a number (n) by $\frac{1}{4}$ and added 8.5.

GD

VF
HW/Ext

9. Matt thinks that his story matches the equation below.

$$c + 8 - 10\frac{3}{4} = 2\frac{1}{4}$$

I made some cakes for a party. Mum made 8 more. 10 whole cakes and one quarter of a cake are eaten. 2 whole cakes and three quarters of a cake are left.

Is Matt correct? Explain why.

GD

RPS
HW/Ext

Homework/Extension
Forming Equations

Developing

1.

A. Candy thinks of a number and divides it by 5. Her answer is 10.	$n + 5 = 10$
B. Toby thinks of a number and multiplies it by 5. His answer is 10.	$n \div 5 = 10$
C. Frankie thinks of a number and adds on 5 more. Her answer is 10.	$5n = 10$

2. A. $r \div 2 = 4$; B. $p - 2 = 6$; C. $c + 3 = 9$

3. Leon is incorrect. He should have multiplied the number by 6 instead of dividing.

Expected

4.

A. Haz thinks of a number. He divides it by 2. The answer is 20.5.	$9n - 2 = 20.5$
B. Jassy thinks of a number. She adds 20.5. Her answer is 22.5.	$n \div 2 = 20.5$
C. Po thinks of a number. He multiplies it by 9 and subtracts 2. His answer is 20.5.	$n + 20.5 = 22.5$

5. A. $b \div 6 = 5$; B. $s + 6 = 15$; C. $\frac{1}{2}n - 4 = 6$

6. Ellie is incorrect. For her story to match the equation, Ellie should have taken one marble away from each friend, instead of giving them another one.

Greater Depth

7.

A. Sandy thinks of a number. She adds 4 and subtracts 10. Her answer is -3.	$n +$ 4 $- 10 = -3$
B. Lena thinks of a number. She multiples it by 4 and subtracts 15. Her answer is -3	$n \div 4 -$ 10 $= -3$
C. Oscar thinks of a number. He divides it by 4 and subtracts 10. His answer is -3.	$4n -$ 15 $= -3$

8. A. $-4 = 0.5n - 6$; B. $0.25 = n \div 8 - 3$; C. $10 = \frac{1}{4}n + 8.5$

9. Matt is incorrect. For his story to match the equation, he should have said that 10 whole cakes and three quarters of a cake were eaten. 2 whole cakes and one quarter of a cake are left.