Varied Fluency
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:

Developing Questions to support forming equations. Using all four operations and whole numbers no greater than 10.

Expected Questions to support forming equations. Using all four operations and whole numbers, with some decimals and fractions.

Greater Depth Questions to support forming equations. Using all four operations; whole, decimal and negative numbers; and fractions.

More Year 6 Algebra resources.

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

1a. Use the equation below to fill in the gaps in the information.

$$p + 3 = 8$$

I think of a number. I add ___ to it and my answer is ___ .

⭐ VF

1b. Use the equation below to fill in the gaps in the information.

$$s - 6 = 10$$

I think of a number. I subtract ___ from it and my answer is ___ .

⭐ VF

2a. Circle the equation that matches the information below.

Liam thinks of a number. He multiplies it by 4. His answer is 8.

| A. $n - 8 = 4$ | B. $8n = 4$ |
| C. $n + 4 = 8$ | D. $4n = 8$ |

⭐ VF

2b. Circle the equation that matches the word problem below.

Tina thinks of a number. She multiples it by 3. Her answer is 9.

| A. $n - 9 = 3$ | B. $3n = 9$ |
| C. $9n = 3$ | D. $n \div 3 = 9$ |

⭐ VF

3a. I think of a number. I subtract 9 from it. My answer is 4.

The equation below is incorrect. It does not match this information. Circle the error.

$$n \div 9 = 4$$

⭐ VF

3b. It think of a number. I divide it by 2. My answer is 10.

The equation below is incorrect. It does not match this information. Circle the error.

$$n - 2 = 10$$

⭐ VF

4a. Complete the equation below to match the information.

$$p \div \boxed{} = 2$$

There are some pencils in a pot. Ollie shares them equally between 3 pots. There are 2 pencils in each pot.

⭐ VF

4b. Complete the equation below to match the information.

$$i + \boxed{} = 9$$

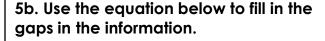I have some stick insects. I'm given 4 more for my birthday. I now have 9 stick insects in total.

⭐ VF

Forming Equations

5a. Use the equation below to fill in the gaps in the information.

$$6r = 48$$

I think of a number. I multiply it by ___ and my answer is ___ .

E   VF

5b. Use the equation below to fill in the gaps in the information.

$$k \div 4 = 2.5$$

I think of a number. I divide it by ___ and my answer is ___ .

E   VF

6a. Circle the equation that matches the information below.

Sunia thinks of a number. She multiplies it by 5 and then adds 3. Her answer is 2.5.

A. $5n + 3 = 2.5$	B. $3n + 5 = 2.5$
C. $5n + 3n = 2.5$	D. $5 + 3n = 2.5$

E   VF

6b. Circle the equation that matches the word problem below.

Will thinks of a number. He divides it by 4 and then subtracts 2. His answer is 2.

A. $4n - 2 = 2$	B. $n \div 2 - 4 = 2$
C. $n \div 4 - 2 = 2$	D. $n \div 2 - 2 = 4$

E   VF

7a. I think of a number. I multiply it by a half. My answer is 6.

The equation below is incorrect. It does not match this information. Circle the error.

$$\frac{1}{4} n = 6$$

E   VF

7b. I think of a number. I add 7 and a half. My answer is 18.

The equation below is incorrect. It does not match this information. Circle the error.

$$n - 7\frac{1}{2} = 18$$

E   VF

8a. Complete the equation below to match the information.

$$e \div \boxed{} = \boxed{}$$

Farmer Jones divides his eggs equally between 6 boxes. There are 5 eggs in each box.

E   VF

8b. Complete the equation below to match the information.

$$4r - \boxed{} = \boxed{}$$

Marley buys 4 rubbers. The shopkeeper gives her a 5p discount. She pays 15p.

E   VF

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Varied Fluency – Forming Equations – Year 6 Expected

9a. Use the equation below to fill in the gaps in the information.

$$c \div 8 - 9 = -6$$

I think of a number. I _____ it by ___ and subtract ___. My answer is ___.

⭐ GD

VF

9b. Use the equation below to fill in the gaps in the information.

$$0.3t \div 9 = 0.6$$

I think of a number. I _____ it by ___ and divide it by ___. My answer is ___.

⭐ GD

VF

10a. Circle the equation that matches the information below.

Huey's answer is -1. To get this answer, he multiplies a number by 0.5 and then subtracts 5.

A. $-1 = 0.5n + 5$	B. $-5 = 0.5n - 1$
C. $-1 = 0.5n - 5$	D. $1 = 0.5n - 5$

⭐ GD

VF

10b. Circle the equation that matches the word problem below.

Talia's answer is -1. To get this answer, she multiplies a number by 0.25 and then subtracts 3.

A. $-3 = 0.25n - 1$	B. $-1 = 0.25n - 3$
C. $-1 = 3n - 0.25$	D. $-1 = 0.2n - 3$

⭐ GD

VF

11a. I think of a number. I multiply it by two thirds and then add 1. My answer is 4.

The equation below is incorrect. It does not match this information. Circle the errors.

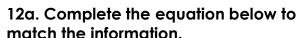$$\frac{2}{3}n + 4 = 1$$

⭐ GD

VF

11b. I think of a number. I subtract 17 and three quarters. My answer is 13 and one quarter.

The equation below is incorrect. It does not match this information. Circle the errors.

$$n - 17.25 = 13\frac{3}{4}$$

⭐ GD

VF

12a. Complete the equation below to match the information.

$$-3 = \boxed{} - \boxed{}$$

Cole's answer is -3. To get this answer he multiplied a number by 0.25 and then subtracted 10.

⭐ GD

VF

12b. Complete the equation below to match the information.

$$-0.5 = \boxed{} \div \boxed{} - \boxed{}$$

Asha's answer is -0.5. To get this answer, she divided a number by 6 and then subtracted 3.5.

⭐ GD

VF

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Varied Fluency – Forming Equations – Year 6 Greater Depth

Varied Fluency
Forming Equations

Developing

1a. 3 and 8

2a. D

3a. $n \div 9 = 4$**. It should be −.**

4a. $p \div 3 = 2$

Expected

5a. 6 and 48

6a. A

7a. $\frac{1}{4}\, n = 6$**. It should be** $\frac{1}{2}$**.**

8a. $e \div 6 = 5$

Greater Depth

9a. divide, 8, 9 and -6

10a. C

11a. $\frac{2}{3}\, n + 4 = 1$**. It should be add 1 and the answer is 4.**

12a. -3 = 0.25 n **− 10**

Developing

1b. 6 and 10

2b. B

3b. $n - 2 = 10$**. It should be ÷ .**

4b. $i + 4 = 9$

Expected

5b. 4 and 2.5

6b. C

7b. $n - 7\frac{1}{2} = 18$**. It should be +.**

8b. 4 r **− 5 = 15**

Greater Depth

9b. multiply, 0.3, 9 and 0.6

10b. B

11b. n − 17.25 **= 13** $\frac{3}{4}$ **. It should be 17.75 and 13** $\frac{1}{4}$ **.**

12b. -0.5 = $n \div 6 - 3.5$

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Varied Fluency – Forming Equations **ANSWERS**

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