

Homework/Extension

Step 4: Substitution

National Curriculum Objectives:

Mathematics Year 6: (6A2) [Use simple formulae](#)

Mathematics Year 6: (6A3) [Generate and describe linear number sequences](#)

Mathematics Year 6: (6A4) [Find pairs of numbers that satisfy an equation with two unknowns](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Find the values of the expressions using the substitutions given. Supports substitution into simple equations to find a value. Includes 2 substitutions with whole numbers only and may use any of the 4 operations.

Expected Find the values of the expressions using the substitutions given. Supports substitution into simple equations to find a value. Includes 2 or 3 substitutions using whole numbers, some decimals or fractions and may use any of the 4 operations. Some examples may require knowledge or the order of operations.

Greater Depth Find the values of the expressions using the substitutions given. Supports substitution into simple equations to find a value. Includes 3 or 4 substitutions using whole numbers, negative numbers, decimals, fractions or mixed numbers, and may use any of the 4 operations. Some examples require knowledge of order of operations.

Questions 2, 5 and 8 (Varied Fluency)

Developing Identify the odd one out. Supports substitution into simple equations to find a value. Includes 2 substitutions with whole numbers only and may use any of the 4 operations.

Expected Identify the odd one out. Supports substitution into simple equations to find a value. Includes 2 or 3 substitutions using whole numbers, some decimals or fractions and may use any of the 4 operations. Some examples may require knowledge or the order of operations.

Greater Depth Identify the odd one out. Supports substitution into simple equations to find a value. Includes 3 or 4 substitutions using whole numbers, negative numbers, decimals, fractions or mixed numbers, and may use any of the 4 operations. Some examples require knowledge of order of operations.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Explain whether you agree with each statement given. Supports substitution into simple equations to find a value. Includes 2 substitutions with whole numbers only and may use any of the 4 operations.

Expected Explain whether you agree with each statement given. Supports substitution into simple equations to find a value. Includes 2 or 3 substitutions using whole numbers, some decimals or fractions and may use any of the 4 operations. Some examples may require knowledge or the order of operations.

Greater Depth Explain whether you agree with each statement given. Supports substitution into simple equations to find a value. Includes 3 or 4 substitutions using whole numbers, negative numbers, decimals, fractions or mixed numbers, and may use any of the 4 operations. Some examples require knowledge of order of operations.

More [Year 6 Algebra](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Substitution

1. Work out the values of the expressions by substituting the following.

$$r = 2$$

$$s = 4$$

$$t = 6$$

$$\text{A. } 5s + r = \square$$

$$\text{C. } t \div r = \square$$

$$\text{B. } 2t - s = \square$$

$$\text{D. } 2s - 7 = \square$$



VF
HW/Ext

2. Find the odd one out that gives an answer less than 5.

$$d = 3$$

$$e = 2$$

$$f = 5$$

$$\text{A. } 3f - 9 = \square$$

$$\text{B. } 2e + d = \square$$

$$\text{C. } 4d \div 2 = \square$$



VF
HW/Ext

3. For each of the statements below say whether you agree or disagree.

A. The value 3 solves the equation $4q + 4 = 16$

B. The value 7 solves the equation $2c - 6 = 9$

Explain your reasoning.



RPS
HW/Ext

Substitution

4. Work out the values of the expressions by substituting the following.

$$p = 3.25$$

$$q = 4$$

$$r = \frac{1}{2}$$

$$\text{A. } 3p + 4r = \square$$

$$\text{C. } q \div r = \square$$

$$\text{B. } 2q - p = \square$$

$$\text{D. } pq - 2.5r = \square$$



VF
HW/Ext

5. Find the odd one out that gives an answer > 5 .

$$h = 6$$

$$j = 7.5$$

$$k = \frac{1}{4}$$

$$\text{A. } 2h - 8 = \square$$

$$\text{B. } 2j + 7k = \square$$

$$\text{C. } 3h - 2k = \square$$



VF
HW/Ext

6. For each of the statements below say whether you agree or disagree.

A. The value 1.25 solves the equation $22 - 2x = 18$

B. The value 2.5 solves the equation $13 + 3y = 20\frac{1}{2}$

Explain your reasoning.



RPS
HW/Ext

Substitution

7. Work out the values of the expressions by substituting the following.

$$u = -4$$

$$v = 0.2$$

$$w = 2\frac{1}{4}$$

$$A. 6u + 5v = \square$$

$$C. w \div 10v = \square$$

$$B. 2w - v = \square$$

$$D. 4w - u = \square$$



VF
HW/Ext

8. Find the odd one out that gives an answer < 9 .

$$l = 8.25$$

$$m = -5$$

$$n = \frac{3}{4}$$

$$A. n + 8.5 = \square$$

$$B. 3l + 2m = \square$$

$$C. 2l - 12n = \square$$



VF
HW/Ext

9. For each of the statements below say whether you agree or disagree.

A. The value -6 solves the equation $14 + 2w = 2$

B. The value $2\frac{1}{2}$ solves the equation $12 - 4y = 3$

Explain your reasoning.



RPS
HW/Ext

Homework/Extension

Substitution

Developing

1. **A = 22; B = 8; C = 3; D = 1**

2. **A**

3. **A is correct because $4 \times 3 = 12$ and $12 + 4 = 16$. B is incorrect because $2 \times 7 = 14$ and $14 - 6 = 8$ not 9.**

Expected

4. **A = 11.75; B = 4.75; C = 8; D = 11.75**

5. **A**

6. **A is incorrect because $2 \times 1.25 = 2.5$ and $22 - 2.5 = 19.5$ not 18. B is correct because $3 \times 2.5 = 7.5$ and $13 + 7.5 = 20.5$ or $20\frac{1}{2}$.**

Greater Depth

7. **A = -23; B = 4.3; C = 1.125; D = 13**

8. **C**

9. **A is correct because $2 \times -6 = -12$ and $14 + -12 = 2$. B is incorrect because $4 \times 2\frac{1}{2} = 10$ and $12 + 10 = 22$ not 3.**