Week 15

Thursday 2nd July 2020

Year 5 Use an Algebraic Rule - Reasoning and Problem Solving

*As Algebra is mainly a year 6 objective, you only have **D** and **E** to complete

Use An Algebraic Rule

1a. Millie is using the rule 2a + 3.

Harry is using the rule (a + 3) x 2.

Harry says:

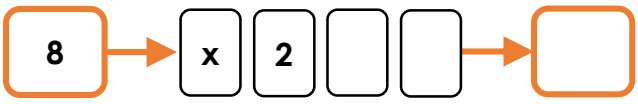
Both rules will give the same answer.

Do you agree? Explain your answer.

D

2a. Use the cards below to create 3 different algebraic expressions for this function machine.

10	–	2	+	3



Work out the outputs for each expression.

What is the greatest output you can make?

D

3a. True or false?

A two step function machine which has +10, – 9 as its functions could provide the same output using one step of + 1.

Explain your answer.

D

Use An Algebraic Rule

1b. Amina is using the rule a – (a – 2).

Tom is using the rule (2a + 5) – 23.

Amina says:

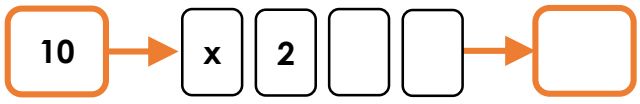
Both rules will give an answer of two when a = 10.

Do you agree? Explain your answer.

D

2b. Use the cards below to create 3 different algebraic expressions for this function machine.

18	–	25	+	9



Work out the outputs for each expression.

What is the greatest output you can make?

D

3b. True or false?

A two step function machine which has +20, – 18 as its functions could provide the same output using just one step of – 2.

Explain your answer.

D

Use An Algebraic Rule

4a. Hafsa is using the rule 3a + 5.

Jake is using the rule (a + 5) x 3.

Jake says:

> **Both rules will give the same answer.**

Do you agree? Explain your answer.

E

Use An Algebraic Rule

4b. Iqra is using the rule $a^2 - (a \times a)$.

Jake is using the rule (3a + 5a) x 0.

Iqra says:

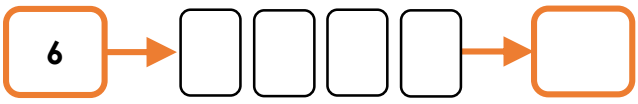
> **Both rules will give an answer of zero.**

Do you agree? Explain your answer.

E

5a. Use the cards below to create 4 different algebraic expressions for this function machine.

4	x	÷	2	+	7



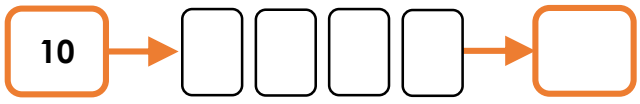
Work out the outputs for each expression.

What is the greatest output you can make?

E

5b. Use the cards below to create 4 different algebraic expressions for this function machine.

1	x	–	9	+	10



Work out the outputs for each expression.

What is the greatest output you can make?

E

6a. True or false?

> **A two step function machine which has +4, – 9 as its functions could provide the same output using just one step.**

Explain your answer.

E

6b. True or false?

> **A two step function machine which has +10, – 5 as its functions could provide the same output using just one step.**

Explain your answer.

E