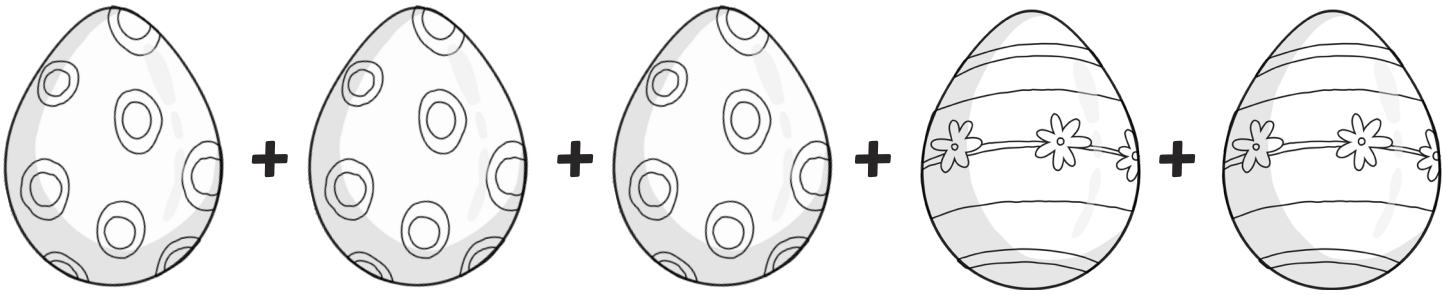
Easter Algebra Prompt Discussion Cards **Answers**

Here is an expression where numbers are represented by some decorated eggs.



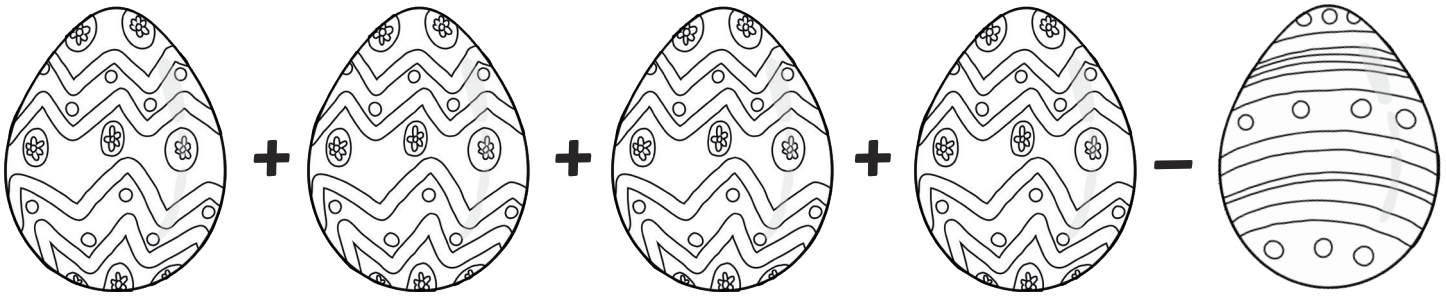
How could we express this calculation using letters to represent each differently decorated egg?

3a + 2b

The value of the expression is 12. What could be the value of each egg?

a = 2, b = 3

Here is an expression where numbers are represented by some decorated eggs.



How could we express this calculation using letters to represent each differently decorated egg?

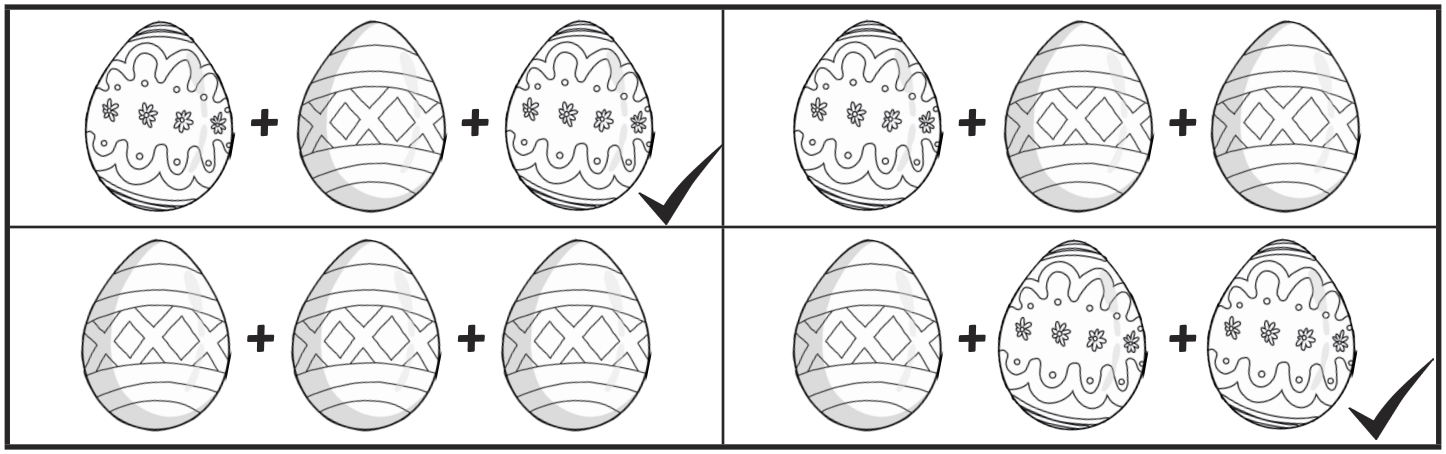
4a – b

The value of the expression is 15. What could be the lowest value of each egg?

a = 4, b = 1

Here is an expression where numbers are represented by some decorated eggs.

Which of the following expressions are equivalent?



Can you use letters to describe this expression?

$2a + b$

In the following expressions, what is the value of the egg?

$14 - \bigcirc = 8$	$8 + \bigcirc = 15$
$(2 \times \bigcirc) + 3 = 13$	$(3 \times \bigcirc) - 16 = 5$
$23 - (\bigcirc \times 3) = 11$	$6 + (\bigcirc \times 4) = 34$

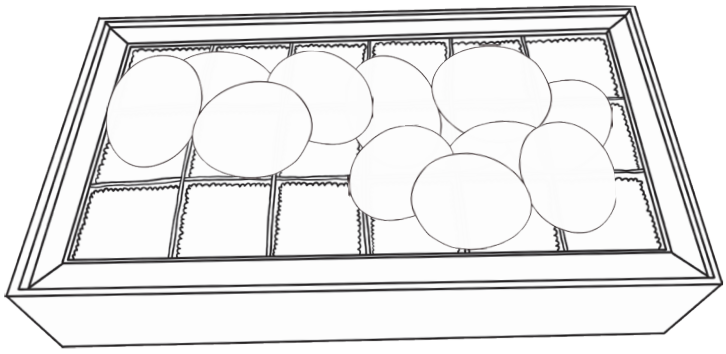
In the following expressions, what are possible values of each egg?

12 + 7 = 19	32 – 17 = 15
13 + 7 = 24 – 4	19 – 4 = 9 + 6
2 × 8 = 16	18 ÷ 3 = 6

Accept any correct values that complete the expressions.

A sweet shop sells mini eggs which can be packaged in a gift box.

The eggs cost 15p each and the gift box costs 35p.



How much will a box with 5 eggs cost? **£1.10**

How much will a box with 12 eggs cost? **£2.15**

What algebraic expression would show the cost of n eggs in a box in pence.

15n + 35

Challenge: How would you make the algebraic expression show the cost in pounds?

(15n + 35) ÷ 100

An Easter egg is covered in foil.

The length of the foil is twice the height (h) of the egg.
The width is 10cm more than the circumference (c) of the egg.

Here is the formula for calculating the area of the foil.

area = 2h × (c + 10)

Explain why this is the formula.

Accept any correct explanation.

An egg has a height of 5cm and a circumference of 12cm. What is the area of foil needed to cover the egg?

2 × 5 × (12 + 10) = 220cm^2

A manufacturer wants to use foil with an area of 160cm^2. What could be the height and circumference?

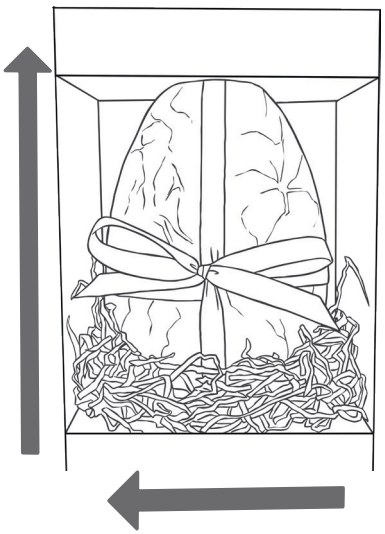
Accept any values that correctly complete the expression, e.g. a height of 5cm and circumference of 6cm.

An Easter egg box is a square prism.

The height of the box is one and a half times the height (h) of the egg.

The width of the box is one and half times the width (w) of the egg.

The volume of the box = (width of egg x 1.5) sq x (height of egg x 1.5)



Explain why this formula gives the volume of the box.

Accept any correct explanation.

An egg is 7cm high and 4cm wide. What is the volume of the box needed for this egg?

378cm^3

Explain how you calculated the answer.

Accept any correct explanation.