Colin and Coco's Daily Maths Workout

Workout 6.13

Keep-uppi (Term 4)

KPIs for Term 4

Find percentages of an amount
Use simple ratio to compare quantities
Convert between different units of metric measure
Calculate the area of triangles/parallelograms
Calculate volumes of cuboids
Use simple formulae expressed in words
Find possible values in missing number problems involving one or two unknowns

Percentages and Ratio Workout

Calculate:

25% of 36 = ☐

95% of 80 = ☐

30% of 40 = ☐

8% of 300 = ☐

15% of 60 = ☐

12% of 200 = ☐

45% of 40 = ☐

99% of 400 = ☐

Colin and Coco share £30.
How much money does Colin and Coco receive if:

Colin gets twice the amount Coco gets.

Colin ☐   Coco ☐

Coco gets 4 times the amount Colin gets.

Colin ☐   Coco ☐
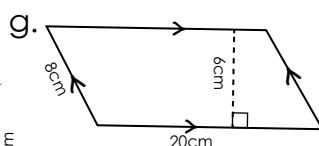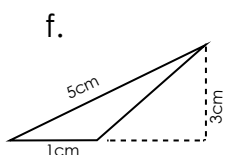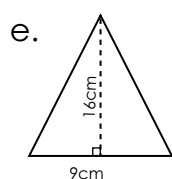
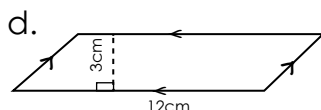Colin gets 5 times the amount Coco gets.

Colin ☐   Coco ☐

The money is shared in the ratio 2:3

Colin ☐   Coco ☐

Area and Volume Workout

Calculate the area of the shapes:

a.
12cm
9cm
15cm

b.
6cm
14cm

c.
5cm
8cm

d.
3cm
12cm

e.
16cm
9cm

f.
5cm
1cm
3cm

g.
8cm
6cm
20cm
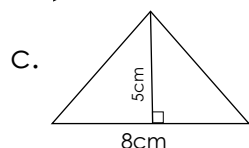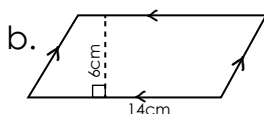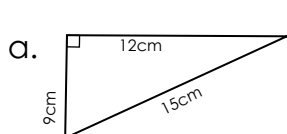
Complete the table for cuboids:

Length	Width	Height	Volume
5cm	2cm	3cm	
4m	5m	3m	
1.5cm	8cm	2cm	
5cm		4cm	120cm³
5cm		5cm	125cm³
	8m	3m	240m³

Algebra Workout

Find the value of n:

n + 5 = 16   ☐

2n = 24   ☐

2n + 3 = 17   ☐

a and b are whole numbers.
Find all the pairs of numbers that satisfy:

a + b = 6

☐

2a + b = 8

☐

The formula for cooking beef is:
20 minutes + 20 minutes per 500g

Complete the table:

Weight	Time
1500g	
2000g	
3kg	
4.5kg	
	4 hours

Percentage Game

You need: (print off the cards)
Game Template
Card Set A for each player.

To play:
Each card set is shuffled and placed face down.
Each player picks EIGHT cards and places them on the Game template to form three percentage statements.
Both players now find the answers to the percentage of each amount.
Each player then finds the total of all three amounts.

To win:
The player who creates the largest amount of money wins one point.
The first player to get 10 points wins the Game.

☐ % of £ ☐ 0

☐ 5 % of £ ☐ 0

☐ ☐ % of £ ☐ ☐

Percentage Game

Percentage Cards

0	1	2	3	4
5	6	7	8	9

Area and Volume Workout

Put different digits in the empty boxes so that
the area and volume statements are correct.

Complete them in several different ways, where possible

Triangle

Base: 5 cm   Perpendicular Height: ☐☐ cm

Area: ☐ 0 cm²

Parallelogram

Base: ☐ cm   Perpendicular Height: ☐ cm

Area: 5 ☐ cm²

Cuboid

Length: ☐ cm   Width: 5 cm   Height: ☐ cm

Volume: 1 ☐ 0 cm³

Are there any boxes that it is impossible to put a digit in? Why?

Are there any boxes that could have any of the digits in them?

Now try to complete all statements together using the digits
0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 once each.

Which digit did you not use?

Algebra
Investigation

Colin loves performing Maths Magic.

Here are some of his favourite Maths tricks:

Trick 1

Pick a number
Add 3
Double your answer
Halve your answer
Subtract the original number.

.... Your answer is 3

Trick 2

Pick a number
Double your answer
Add 8
Halve your answer
Subtract the original number.

.....Your answer is 4

Trick 3

Pick a number
Add on the next consecutive number
Add 9
Halve your answer
Subtract the original number.

.....Your answer is 5

Investigate if the tricks work for any number.

For the tricks that do work for any number, use algebra to prove why.

Create a similar Maths trick that will always give an answer of 6.

Word Problem Workout
Formulae, Ratio and Units of Measure

1. Colin's bed is 2.3m long and 1.9m wide.
   He is making a scale model of his bed.
   How long and wide will his model be in centimetres?

2. Coco sets off on a 3.5 km flight.
   After 675m she stops for a rest. She then flies the next 450m
   How many kilometres has she left to fly?

3.
   A   B   C   (not to scale)

   The distance from A to C is 300m.
   The distance from A to B is 5 times the distance from B to C
   How far is it from A to B?

4. Coco pours some paint into a conatiner.
   In millilitres, how much paint is in the container?
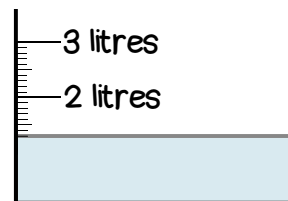
   3 litres
   2 litres

5. Colin's Slush machine makes 200ml of Slush every 5 seconds.
   At this rate, how many litres of Slush would it make in one minute?

6. A T shirt printer charges £1.50 per T-shirt printed, plus 75p per colour.
   How much would it cost to get three T-shirts printed with
   4 colours on each one?

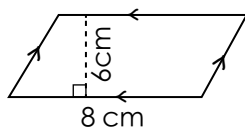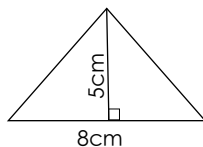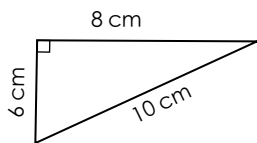7. In a recipe there are 4 eggs and 200g of sugar.
   If Coco uses 6 eggs, how much sugar should she use?

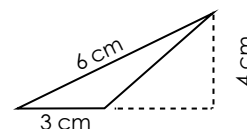Create your own word problems involving ratios.

Matching Workout

Match the shapes with the correct area.
Fill in the missing buddies.

8 cm
6 cm
10 cm

5cm
8cm

6cm
8 cm

18 cm²
48 cm²
40 cm²
20 cm²
36 cm²
6 cm²

12 cm
3 cm

4 cm
10cm

8cm
6cm
6cm

6 cm
4 cm
3 cm
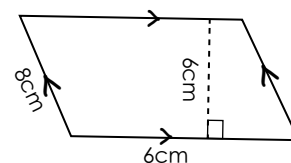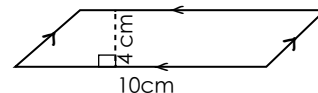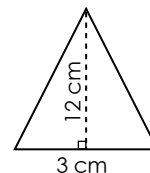
Match the expression with the description.
Fill in the missing buddies.

n squared		n + 2
Double n		2 – n
n add 2		n – 2
n divided by 2		2n
2 take away n		$\frac{n}{2}$

Match the percentage with the quantity.
Fill in the missing buddies.

15% of 80		24
5% of 120		14
25% of 60		12
% of 120		
35% of 40		6
99% of 200		15
9% of 200		18

Create your own Matching Workouts.