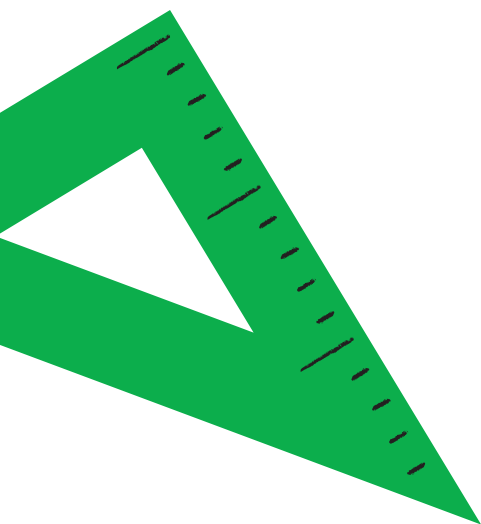# Dressing up for Digits

OLEX MYSTERY

Olex the SchoolOnline owl has disappeared on a mission to Dress up for Digits!

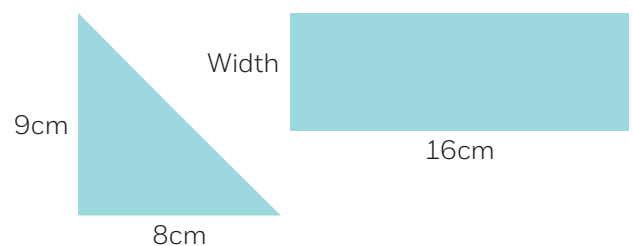**Can you solve the mystery to discover his undercover identity?**

Here are the steps you need to follow:

1. Answer each of these Maths questions correctly. If you need help answering any of them, or to check your answers, follow the bite-size tuition video that supports each question. These can be found on the SchoolOnline website: **schoolonline.co.uk/nspcc-numbers-day-gcse/**

2. Next, put the answers in size order, from smallest to largest, using the attached worksheet.

3. Lastly, fill in the letter that accompanies each question in the space provided in the worksheet. This will solve the Olex Dress up for Digits Mystery!
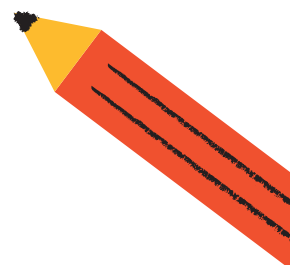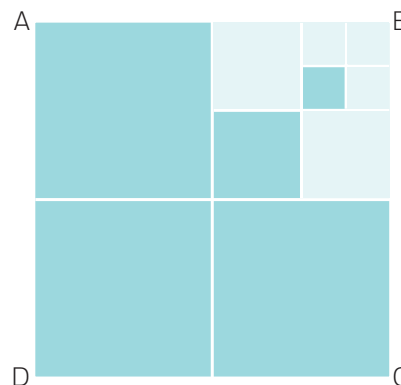
Q1. Here are a triangle and a rectangle.

The area of the rectangle is 6 times the area of the triangle.

Work out the width of the rectangle.

Width

9cm

16cm

8cm

Q2. ABCD is a square.

This diagram is drawn accurately.

What fraction of the square ABCD is shaded?

A   B
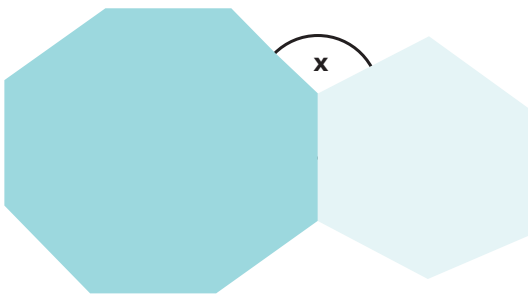
D   C

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Q3. The diagram shows a regular octagon and a regular hexagon.

Find the size of the angle marked **x**.

You must show all your working.

Q4. Here is a list of ingredients for making 30 biscuits.

SHOPPING LISTS

225g butter
110g caster sugar
275g plain flour
75g chocolate chips

Lucas has the following ingredients

900g butter
1000g caster sugar
1000g plain flour
225g chocolate chips

What is the greatest number of biscuits Lucas can make?
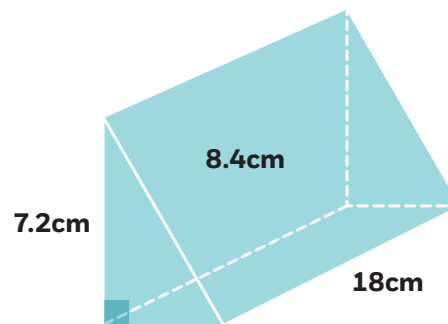
Q5. Here is a list of four fractions.

$$\frac{4}{16} \quad \frac{2}{8} \quad \frac{15}{60} \quad \frac{3}{9}$$

One of these fractions is not equivalent to $\frac{1}{4}$.
Write down this fraction.

Q6. Write 20% as a fraction.

Q7. Here is a triangular prism.

8.4cm
7.2cm
18cm

Work out the volume of the prism.

Give your answer correct to 3 significant figures.

Q8. Tim and 3 friends go on holiday together for a week.

The 4 friends will share the costs of the holiday equally.

Here are the costs of the holiday.

£1280 for 4 return plane tickets
£640 for the villa
£220 for hire of a car for the week

Work out how much Tim has to pay for his share of the costs.

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Dressing up for Digits

OLEX MYSTERY

Q9. A piece of wire is 240cm long.

Peter cuts two 45cm lengths off the wire. He then cuts the rest of the wire into as many 40cm lengths as possible.

Work out how many 40cm lengths of wire Peter cuts.

Q10. Work out 15% of 160 grams.

Q11. Work out $2\frac{1}{7} + 1\frac{1}{4}$.

Q12. In a village, the number of houses and the number of flats are in the ratio 7:4

The number of flats and the number of bungalows are in the ratio 8:5.

There are 50 bungalows in the village. How many houses are there in the village?

Q13. A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour. For the next race across America he will cycle for 8 hours per day.

A) Estimate how many days Juan will take to complete the race.

Q14. Write the number 2538 correct to the nearest hundred.

Q15. Find the value $\sqrt{1.44 \times 3.61}$.

Q16. Last year the cost of a season ticket for a football club was £560. This year the cost of a season ticket for the club has been increased to £600.

Write down the increase in the cost of a season ticket as a fraction of last year's cost.

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Dressing up for Digits

OLEX MYSTERY

Answers

Q1.   13.5

Q2.   53 / 64

Q3.   105

Q4.   90

Q5.   3 / 9

Q6.   20 /100

Q7.   280 cm

Q8.   £535

Q9.   34

Q10. 24

Q11. 95 / 28

Q12. 140

Q13. 15 (days)

Q14. 2500

Q15. 2.28

Q16. 40 / 560

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