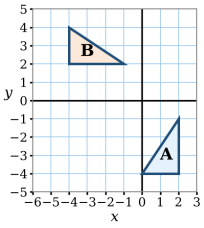
Day 96	A Tier 10-a-day
1 Here are the ingredients for 4 flapjacks. Butter: 40 g Water: 100 ml Oats: 100 g (a) Work out how much butter is needed for 15 flapjacks. (b) Hannah has 784 ml of water. What is the greatest number of flapjacks she can make?	
2 A circle has diameter 6 cm. Work out, in terms of π, (a) the circumference, (b) the area.	
3 Solve the simultaneous equations $-6x - 3y = 6$ $3x - y = -8$	
4 Triangle XYZ: XY = 11 cm, YZ = 14 cm, angle XYZ = 85°. Triangle DEF: DE = 14 cm, EF = 11 cm, angle DEF = 85°. Are the two triangles congruent? Give a reason for your answer.	
5 The price of a product increases by 5% each year for 2 years. Work out the overall percentage increase over the 2 years.	

Day 96	A Tier 10-a-day

6 Describe fully the single transformation that maps shape A onto shape B.



7 $f(x) = 4x + 2$
$g(x) = x^2 - 5$
Solve $fg(x) = -2$

8 The value of a painting increases by 20% each year. (Calculator)
After 3 years it is worth £42,336.
Work out its value at the start.

9 Jug A contains 15 litres of a mixture of orange juice and lemonade in the ratio 1 : 2.
Jug B contains 13 litres of a mixture of orange juice and lemonade in the ratio 7 : 6.
The contents of both jugs are mixed together.
Work out the ratio of orange juice to lemonade in the mixture. Give your answer in its simplest form.

10 Femi invests £16,500 in a savings account. (Calculator)
Compound interest is paid at a fixed rate each year.
After 2 years the investment is worth £19,965.
Work out the annual rate of interest.