Day 62 **B Tier 10-a-day**

1 Expand
(a) 9(5x + 7)
(b) 5(3y + 8)

2 (a) Write down the number of lines of symmetry of a rhombus.
(b) Write down the order of rotational symmetry of a rhombus.

3 Write 44 as a product of its prime factors.
Give your answer in index form.

4 Triangle PQR has a right angle, a hypotenuse of 11 mm and another side of 4 mm.
Triangle XYZ has a right angle, a hypotenuse of 11 mm and another side of 4 mm.
Are the two triangles congruent?
Give a reason for your answer.

5 Complete the table of values for $y = x^2 - 2x + 4$

x	−2	−1	0	1	2	3
y	12			3		

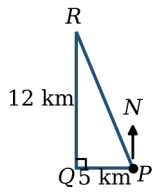
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6 Two lights flash at 10:30.
One light flashes every 18 minutes.
The other light flashes every 16 minutes.
At what time do both lights next flash together?

7 A fair 4-sided dice and a fair 6-sided dice are each rolled once.
Each dice is numbered from 1.
Work out the probability that both dice show a number greater than 1.

8 Matchsticks are used to make a row of pentagons.
1 pentagon needs 5 matchsticks, 2 pentagons need 9 and 3 pentagons need 13.
(a) Find an expression, in terms of n, for the number of matchsticks needed for n pentagons.
(b) Dan uses 97 matchsticks to make a row.
How many pentagons are in his row?

9 A boat sails 5 km on a bearing of 270° from P to Q, then 12 km on a bearing of 000° to R.
(Calculator)
(a) Work out the distance PR.
(b) Work out the bearing of R from P.
Give your answers correct to 1 decimal place.



10 The stem and leaf diagram shows 12 values.
(a) Find the median.
(b) Work out the range.

Stem	Leaf
1	0 4 7 8
2	2 4 7 8
3	0 3 4 7

Key: 1 | 0 means 10