

Year 9 Foundation learn sheet: Jan 2018, Assessment 2

Practise these revision questions:

1. $1 \text{ kg} = 2 \text{ lbs}$, $1 \text{ inch} = 2.5 \text{ cm}$

$5 \text{ miles} = 8 \text{ km}$, $1 \text{ litre} = 1 \frac{3}{4} \text{ pints}$

Fill in the blanks:

$5 \text{ kg} = \underline{\hspace{2cm}} \text{ lbs}$ $6 \text{ inches} = \underline{\hspace{2cm}} \text{ cm}$

$\underline{\hspace{2cm}} \text{ miles} = 64 \text{ km}$ $4 \text{ litres} = \underline{\hspace{2cm}} \text{ pints}$

2. Fill in the missing equivalent fraction, decimal or percentage in the table:

fraction	decimal	percentage
$\frac{1}{2}$		
	0.25	
		30%

3. From the stem and leaf diagram below, work out the mean and range.

Key: $2 \mid 3 = 23 \text{ miles}$

1		2 3
2		3 6
3		5 7 7 8

4. Work out 22.5% of £64

5. Solve these equations:

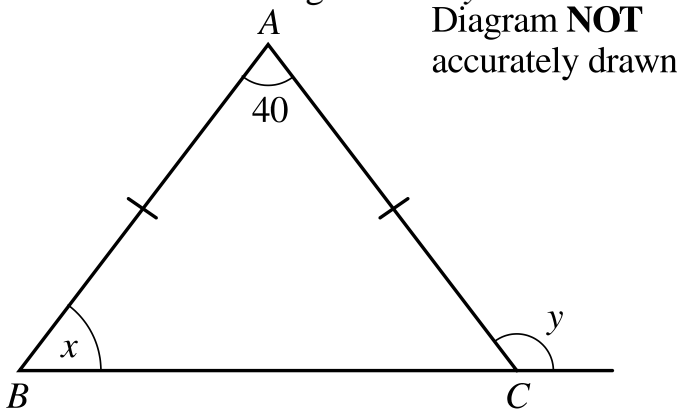
(a) $4x + 12 = 52$

(b) $4x - 12 = 52$

(c) $4(x - 12) = 52$

(d) $4x - 12 = x + 12$

6. Find the size of angles x and y



7. Draw the net of a cube.

8. The stem and leaf diagram shows the number of miles travelled by a salesman each day for 14 days.

Key: $2 \mid 3 = 23 \text{ miles}$

1		2 3
2		3 6
3		5 7 7 8
4		1 3 4 8
5		2 5

What is the median distance he travels?

9. To make 12 cakes I need 150 grams of sugar. How much will I need for 18 cakes?

10. If a sequence has the rule $n^2 + n$, then what is the 5th number in the sequence?

11. A line is measured as 6 cm to the nearest centimetre. What are the biggest and smallest values it could have been measured as?

12. A bag has some red, green and blue marbles in it. If the probability of getting a red marble is 0.5 and for a green is 0.24, what is the probability of getting a blue marble?

13. Find the area of a circle of diameter 8 cm giving your answer to 1 decimal place.

14. Draw the graph of $y = x^2 + x + 2$

From $x = -3$ to $x = 2$

x	-3	-2	-1	0	1	2
y						

15. What is the LCM of 80 and 100?

Year 9 Foundation topics to learn

Pictograms
Reading scales
Time calculation
Reflections
Basic perimeter/area/volume
Names of 3D shapes
Money calculation
Sequences
%/decimals/fractions conversion
Weight conversion

Estimating length
Conversion graph
Basic enlargement
Units of length
Drawing a quadratic graph
Mean and range
% of an amount
Using a calculator
Using a stem & leaf diagram
Angles in triangles

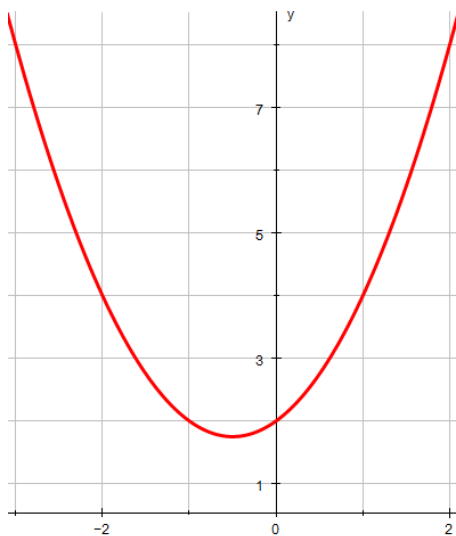
Nets of shapes
Solving equations
Recipes
Using nth term
Identify upper & lower bounds
Probability
Scatter graphs
Area of a circle
Construct perpendicular bisector
Number machines
Lowest common multiple

Answers to practice questions:

15. 100, 200, 300, 400 answer = **400**
80, 160, 240, 320, 400

14. Put the values of x into $y = x^2 + x + 2$

x	-3	-2	-1	0	1	2
y	8	4	2	2	4	8



13. diameter 8 cm, so radius = 4 cm
 $A = \pi r^2 = \pi \times 4^2 = \pi \times 16 = 50.265 \approx \mathbf{50.3 \text{ cm}^2}$ to 1 dp

12. $1 - 0.5 - 0.24 = \mathbf{0.26}$

11. smallest = 5.5 cm, biggest = 6.5 cm or 6.49

10. Replace n with 5, $n = 5$, $52 + 5 = 25 + 5 = 30$

9. 12 cakes = 150 grams of sugar.

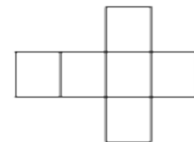
6 cakes = $150 \div 2 = 75$

18 cakes = $150 + 75$ (or 75×3) = **225 grams**

8. 14 numbers, so the median is between the 7th and 8th numbers

1	2 3	7th number = 37
2	3 6	8th number = 38
3	5 7 7 8	<u>Median = 37.5</u>
4	1 3 4 8	
5	2 5	

7. Lots of answers e.g.



6. $x = (180 - 40) \div 2 = \mathbf{70^\circ}$ $y = 180 - 70 = \mathbf{110^\circ}$

5. Solve these equations:

(a) $x = 10$ (b) $x = 16$ (c) $x = 25$ (d) $x = 8$

4. $22.5 \div 100 \times 64 = 14.4 = \mathbf{£14.40}$

3. mean = $(12+13+23+26+35+37+37+38) \div 8 = \mathbf{27.625}$
Range = $38 - 12 = \mathbf{26}$

2.

fraction	decimal	percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{3}{10}$	0.3	30%

1. 5 kg = **10 lbs**, 6 inches = **15 cm**, **40 miles** = 64 km
4 litres = **7 pints**