Year 7 Review 1A

1 Round the following numbers to one decimal place.
   a) 0.872   **b)** 4.89   **c)** 19.38

2 Re-write this calculation using brackets to make it true.
$$7 + 3 \times 2 - 6 = 14$$

3 Simplify the following expressions using the correct order of operations.
   a) $2x + 4(x - 7) - 5x$
   b) $-3r + 4 - (2r - 3) + 8r$

4 Write an expression for the area of a rectangle 7 units long and $(x - 3)$ units wide.

5 Write an expression for the perimeter of the rectangle in question 4.

6 A square has side length $(t - 7)$ units. Write an expression for its perimeter.

7 Draw a trapezium with one line of symmetry.

8 Draw a regular octagon.
   a) Write down how many lines of symmetry it has.
   b) Write down its order of rotational symmetry.

9 Convert each of these measures to the units shown in brackets.
   a) 7.142 kg (g)   **b)** 12 568 m (km)   **c)** 4.12 litres (ml)

10 A fitness club carries out a survey to find out the ages of its members. Here are the results.

28	18	33	17	49	42	50	19	21	23	21	16
38	55	62	41	17	19	23	46	38	42	35	65
18	42	63	48	19	67	17	23	36	48	54	60

   a) Make a grouped tally and frequency table using the age groups 1–10, 11–20, 21–30, etc.
   b) Draw a frequency diagram of the data.
   c) Draw some conclusions from your frequency diagram.
   d) The club wishes to know what are the best times for social events, competitions, club nights, etc. Design a questionnaire to be given to the members.

Year 7 Review 1B

1 Round the following numbers to one decimal place.
   a) 0.84   **b)** 4.99   **c)** 29.88

2 Re-write this calculation using brackets to make it true.
$$3 \times 2 \times 6 + 2 = 48$$

3 Simplify the following expressions using the correct order of operations.
   a) $3x + 2(x - 7) - x$
   b) $-8r + 4 - (5r - 3) + r$

4 Write an expression for the area of a rectangle 9 units long and $(2x - 7)$ units wide.

5 Write an expression for the perimeter of the rectangle in question 4.

6 A square has side length $(p - 1)$ units. Write an expression for its perimeter.

7 Draw a triangle with one line of symmetry.

8 Draw a regular hexagon.
   a) Write down how many lines of symmetry it has.
   b) Write down its order of rotational symmetry.

9 Convert each of these measures to the units shown in brackets.
   a) 2.3 kg (g)   **b)** 5568 m (km)   **c)** 0.42 litre (ml)

10 A golf club carries out a survey to find out the ages of its members. Here are the results.

28	68	57	79	42	50	19	21	23	21	56	16
38	55	62	71	27	49	63	46	68	42	35	65
18	72	63	48	69	67	17	43	36	48	54	60

   a) Make a grouped tally and frequency table using the age groups 1–10, 11–20, 21–30, etc.
   b) Draw a frequency diagram of the data.
   c) Draw some conclusions from your frequency diagram.
   d) The club wishes to know if fees should be raised to make improvements to the golf course, and to find out why the club restaurant is not used much at certain times of the week and in certain months of the year. Design a questionnaire to be given to the members.

Review 2A

1. A boy has climbed 210 m up a 350 m vertical cliff, and is trapped there. A rescue helicopter is hovering 65 m above the top of the cliff. Calculate how far a rescuer must be lowered to reach the boy. You may draw a sketch to help you.

2. *Without using a calculator*, evaluate the following.
   a) $\sqrt{225}$ b) $\sqrt{625}$

3. Sketch the graph of:
   a) $x = -3$ b) $y = +5$

4. Draw lines of the following lengths using a ruler.
   a) 3.5 cm   b) 47 mm   c) 4.9 cm

5. Draw a triangle ABC where the length $AB = 8.8$ cm, $AC = 6.5$ cm and $\angle A = 59°$.

6. Write these times as 24-hour clock times.
   a) 8.30a.m.   b) 11.30p.m.   c) 4.50p.m.

7. A bus journey from a town to a city takes 2 hour 38 minutes. Copy and complete the timetable opposite.

| Depart	Arrive
05 00	
07 20	
	11 18
	13 36
15 45	
18 22	
	21 17
	23 25

8. The mean mass of the 11 players in a football team is 80.7 kg. The mean mass of the team plus a substitute is 81.4 kg. What is the mass of the substitute to one decimal place?

9. *Without using a calculator*, work out:
   a) 90×600 b) 80×800 c) 600×50

Review 2B

1. List all the factors of each of these numbers and circle the prime factors.
   a) 18   b) 38   c) 36   d) 44

2. Solve these equations.
   a) $a + 9 = 5$ b) $b - 3 = 3$ c) $7c = 42$ d) $\frac{d}{3} = 14$

3. The numbers 12, 13, 14, 15 and 16 are entered into the function machine 'multiply by 6, subtract 10 and then divide by 2'. Calculate the output in each case.

4. For each of the following angles:
   (i) estimate its size
   (ii) measure it and check how good your estimate was.

   Aim for your estimate to be within 10° of the actual size.
   a)   b)
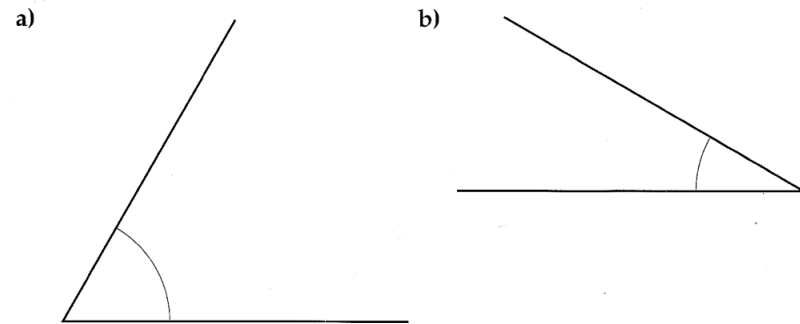
5. Construct a rhombus of side 5.7 cm and base angles 45° and 135°.
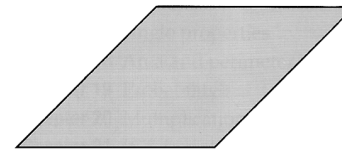
6. Write these times as 24-hour clock times.
   a) 9 o'clock in the evening
   b) noon
   c) half past midnight

7. Find the mean, median, mode and range of this set of data.
   1 1 1 1 2 2 3 4 4 4 4 4 5 5 6

8. *Without using a calculator*, work out:
   a) 0.6×7 b) 0.008×9 c) 0.09×8

9. a) *Without dividing*, write down which of these numbers are divisible by 9.
   (i) 639   (ii) 7651
   (iii) 87 642   (iv) 12 345
   (v) 969 345
   b) Which number in part a) is divisible by 45? Give reasons for your answer.