SHARP

Worksheet 30: Term 4 Revision

Grade 8 Mathematics

1. Solve the following equations for the unknown variable:

a) $6m + 3 = 2$

b) $-7n - 8 = 0$

c) $\frac{p}{2} - 8 = 4$

d) $\frac{3}{2}q - 3 = 3$

e) $10 - 7r = 3$

f) $9s - \frac{1}{2} = \frac{3}{4}$

g) $8 - \frac{t}{6} = -1$

h) $-7 + 4u = -35$

i) $11 + v = 7$

j) $\frac{4w}{7} - 3 = 5$

2. Complete the following tables by filling in the missing values and give the rule for each table:

a) complete: y = _____

x	-2	-1	0	1	2	6		13	
y	-7	-5	-3	-1			17		35

b) complete: y = _____

x	-2	-1	0	1	2	5		11	
y	$6\frac{1}{7}$	$6\frac{4}{7}$	7	$7\frac{3}{7}$			10		$13\frac{3}{7}$

c) complete: y = _____

x	-2	-1	0	1	2	4		10	
y	16	13	10	7			-11		-41

d) complete: y = _____

x	0	1	2	3	4	7		13	
y	1	2	4	8			512		32 768

e) complete: y = _____

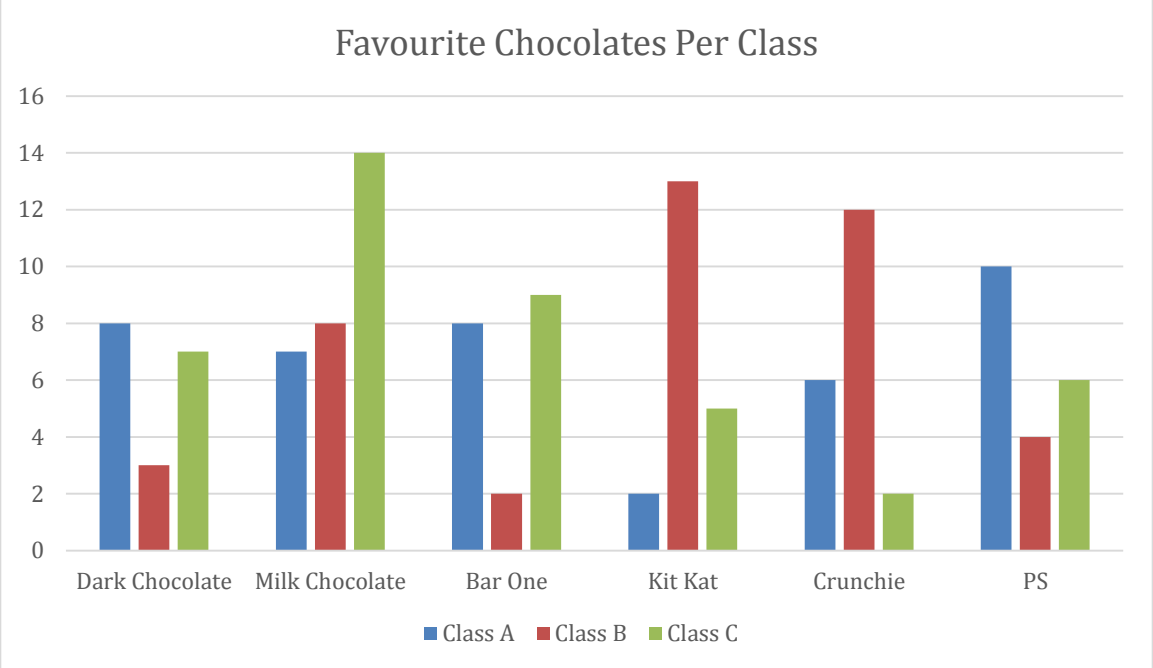
x	1	2	3	4	6		12		24
y	48	24	16			6		3	

3. For each of the tables in question 2, draw a graph to represent the given information.

4. For each of the graphs in question 3, say whether the graph is increasing or decreasing.

5. For each of the graphs in question 3, say whether the graph is linear or non-linear.

6. Given below is a graph for three classes in Sunshine School. The students were asked which of the options below was their favourite chocolate. Study the graph carefully before answering the questions that follow. (Note, class A is the first column for every chocolate, class B is the middle column and class C is the end column for each chocolate).



a) Which is the favourite chocolate for each class?

b) Which chocolate is the least favourite in each class?

c) What kind of data is used to draw this graph? Discrete or continuous?

d) Which chocolate is the overall favourite for all of the classes?

7. Draw a Cartesian plane in your book that goes from -8 to 8 on the x-axis and from -10 to 10 on the y-axis. Use your Cartesian plane to answer these questions. Be careful to label all of your points.

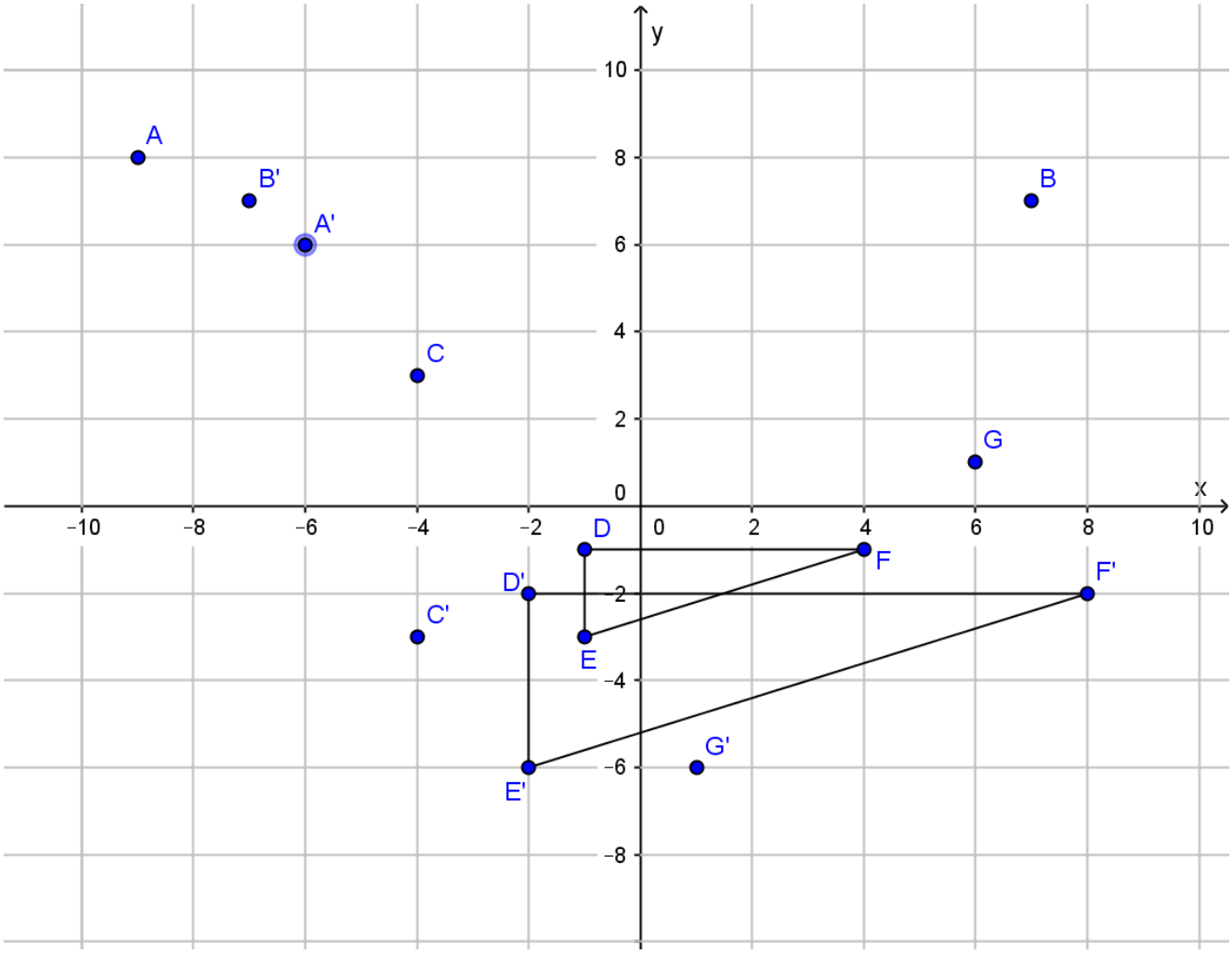
a) Draw the point A (-1; -1) and its reflection about the y-axis, A'.

b) Draw the point B (3; 2) and its reflection about the x-axis, B'.

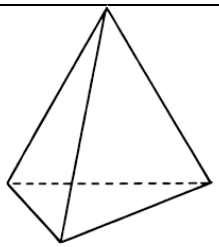
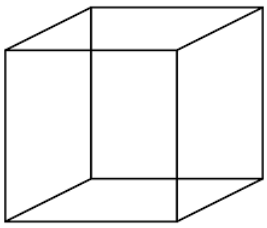
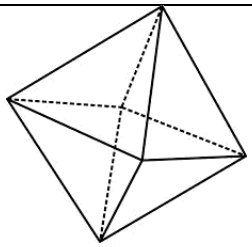
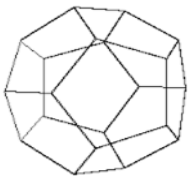
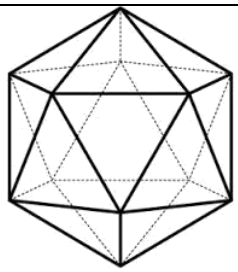
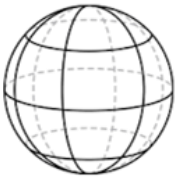
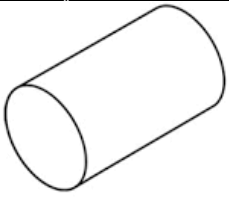
c) Draw the triangle CDE, with points C (6, 2), D (3, 8) and E (-1; 3) and its translation by 7 units down and 4 units left, C'D'E'.

e) Reduce the triangle C'D'E' by a factor of 2 and draw this triangle with points C''D''E''.

8. Examine the points given below on the Cartesian plane and their transformations, and state the rule used to transform each of them.



9. Redraw the following table in your book and complete it by filling in the missing values:

Picture	Name of Shape	Number of Faces	Number of Edges	Number of Vertices
				
				
				
				
				
				
				

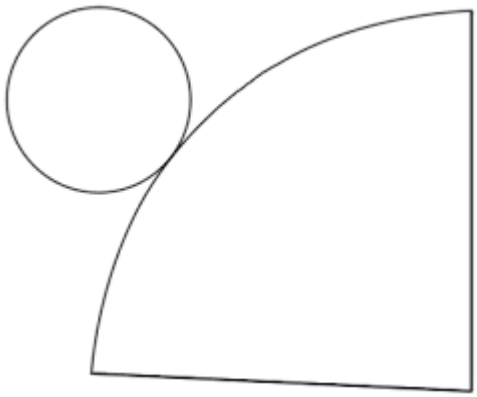
10. Draw a net of the following shapes:

    a) Rectangular prism.

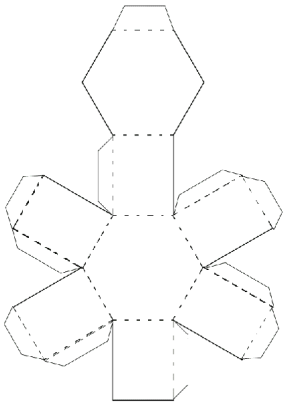
    b) Square pyramid

11. Give the names of the following 3D shapes from the pictures of their nets.

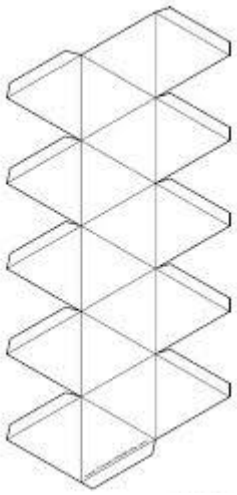
    a)



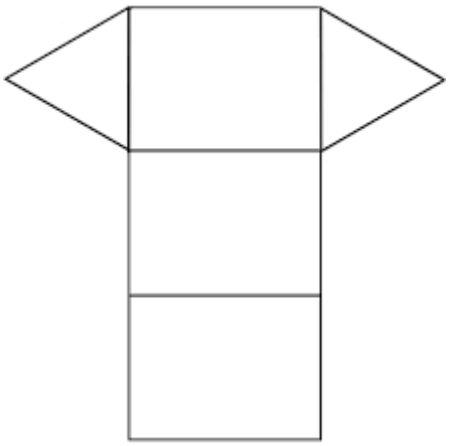
    b)



    c)



    d)



12. You are given a red die and a coin. You roll the die and flip the coin at the same time.

    a) Draw a table and list all the possible outcomes for this experiment.

    b) What is the chance of rolling a six and getting heads?

    c) What is the chance of rolling an odd number on the die and getting tails?

    d) What is the chance of rolling a seven and getting heads?

13. You are now given a blue die and two coins, which you roll and flip at the same time.

a) Draw a table and list all the possible outcomes for this experiment.

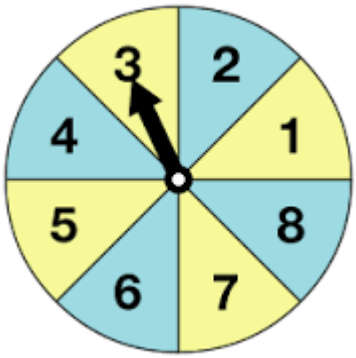
b) Is it possible to roll the die and flip the coin 24 times and get each of the 24 possible outcomes once in the 24 rolls and coin flips? Give a reason for your answer.

c) What is the probability of getting a 5 and one heads and one tails?

d) What is the probability of rolling an even number and getting two heads?

e) If you had to make a bet which would you choose to bet on, getting a three and two tails, or getting an odd number and one heads and one tails? Give a reason for your answer.

14. Given on the right is a picture of a spinner with 8 equal parts.



a) List all the possible outcomes if this spinner is spun once.

b) Draw a table to use it to list all the possible outcomes if the spinner is spun twice.

c) What is the chance of getting an even number if the spinner is spun once?

d) What is the chance of getting an odd number if the spinner is spun twice?

e) What is the chance of getting the same two numbers in a row if the spinner is spun twice?