

Worksheet 14: First term review

Practice for Progress Test 3

There is space on this sheet to write the answers

You can use a calculator

Use black pen

Name _____ Group _____

Action plan: Write three topics to work on after this practice test is marked

Topic 1 _____

Topic 2 _____

Topic 3 _____

Questions

1) Solve $2x - 3 = 6$

Circle the correct answer

[1]

$x = \frac{2}{3}$

$x = 4\frac{1}{2}$

$x = 0$

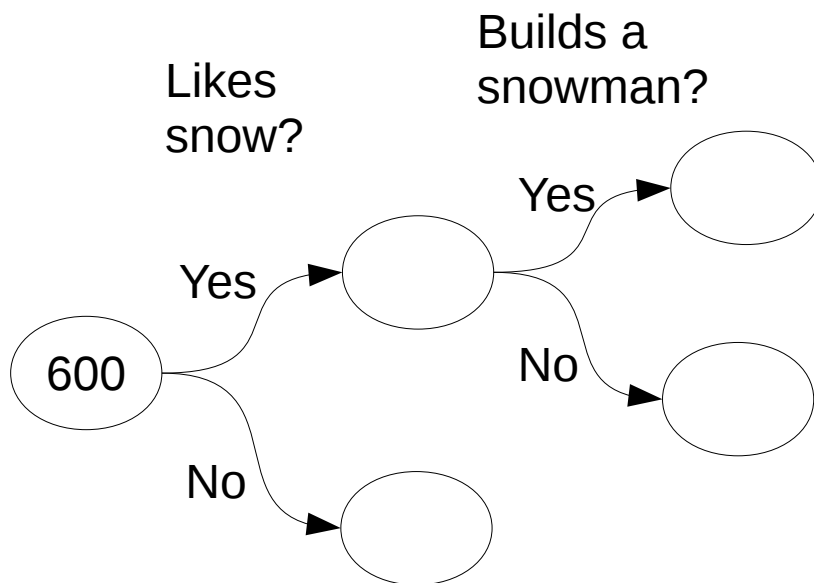
$x = \frac{4}{3}$

2) 600 people are asked if they like snow.

$\frac{7}{10}$ Say yes

15% of those who say yes build a snowman

Complete the frequency tree below



[4]

3) Circle the expression that **does not** simplify to a^4

$$a \times a \times a \times a$$

$$a^6 \div a^2$$

$$a^3 \times a$$

$$a^2 + a^2$$

[1]

4) Two fair dice are rolled and the numbers added to get a score

a) Complete the table below showing the scores

+	1	2	3	4	5	6
1	2					
2						
3					8	
4			7			
5						
6						12

[4]

b) What is the probability that the score will be a square number?

[1]

5) a) Simplify $4x + 4y - 2x + y$ [1]

b) Expand $3(4x - 2)$ [1]

c) Factorise $15x^2 - 10x$ [1]

d) Solve $15x - 4 = 4x + 2$ [1]

e) Expand $(x + 1)(x - 3)$ [1]

6) Find the median of the four numbers listed below

$$\frac{2}{3}$$

40%

0.3

$$\frac{3}{5}$$

[3]

7) A company pays five people the salaries shown below

£12 000 £12 500 £14 300 £19 400 £85 000

a) Work out the mean salary paid by the company [2]

b) Work out the range of the salaries [1]

c) Write a sentence explaining why the mean is **not** a good average for this data [2]

8) Cuthbert received a pay rise of 5% when he passed his GCSE

Cuthbert's new pay was £13 125

Calculate Cuthbert's pay before the pay rise [3]

- 9) Below is some information about the number of drawing pins in a sample of boxes of drawing pins taken from a production line

Number of drawing pins in a box	Frequency
48	1
49	0
50	5
51	2
52	2
53	1

- a) How many boxes of drawing pins were in the sample?

[1]

- b) What was the total number of drawing pins in all of the boxes?

[3]

- c) What was the median number of drawing pins in a box?

[2]

- 10) Nigella puts £2000 in a savings account that pays 3% compound interest.

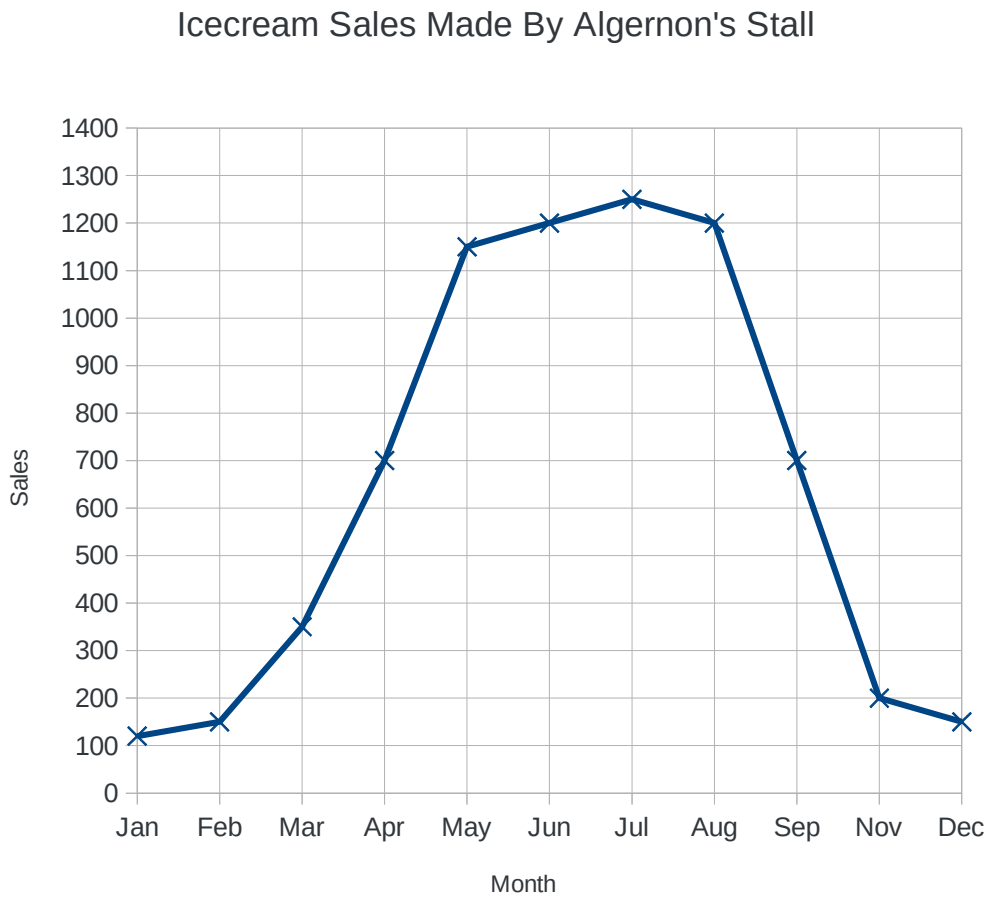
Calculate the value of the savings account after 6 years.

[3]

- 11) Rearrange $y = 3x + 1$ to make x the subject [2]

- 12) There are 10 people at a Christmas party
The mean age of the people is 28
A mysterious stranger joins the party at midnight
The mean age of the people increases to 30
How old was the mysterious stranger? [3]

13) Below is a chart showing the value of ice cream sales...



a) How much more did the stall make in July than in April?

[1]

b) Calculate the total value of the sales over the year

[2]

c) Write a sentence summarising the pattern of sales for Algernon's report to the shareholders.

[2]