

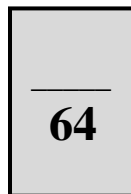
SCHOLARSHIP EXAMINATION**MATHEMATICS**

2018

Time: 1 hour

Name: _____

School: _____

NON CALCULATOR

1. Using the information that

$$6.4 \times 11.7 = 74.88$$

write down the value of

(a) 64×117

.....
(1)

(b) $7488 \div 1.17$

.....
(1)

(Total for Question 1 is 2 marks)

2. Find the answers to these. Give the answer as a mixed number or as a fraction in its simplest form.

a) $\frac{2}{5} + \frac{5}{7}$

(2)

b) $\frac{2}{3} \times \frac{5}{8}$

(2)

a) $2\frac{1}{5} + 3\frac{5}{9}$

(3)

(Total for Question 2 is 7 marks)

3. Work out an estimate for the value of

$$\frac{22 \times 34.9}{0.591}$$

.....
(3)

(Total for Question 3 is 3 marks)

4. Write 525 as a product of its prime factors.

.....
(Total for Question 4 is 2 marks)

5. Solve the following equations.

a) $4x + 1 = 33$

(2)

b) $5(x - 2) + 2(x + 5) = -7$

(3)

c) $\frac{x}{5} + \frac{x+3}{4} = 2$

(3)

d) Whilst watching their flocks by night the shepherds managed to lose two thirds of their sheep. They found four fifths of these again in the morning. What fraction of their original flock did they then have left ?

(3)

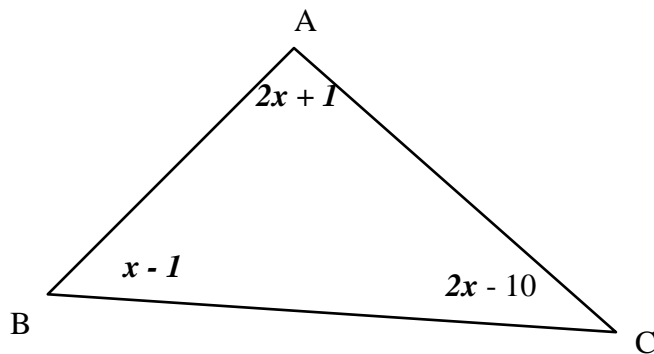
(Total for Question 5 is 11 marks)

6. Five numbers have a mode of 6, a median of 7, a mean of 7.8 and a range of 5
What are the five numbers ?

(3)

(Total for Question 6 is 3 marks)

7. By considering the triangle below, find the value of x .



(3)

.....
(Total for Question 7 is 3 marks)

8. What is 5% of 60 plus 20% of 35 plus 30% of 140 subtract 50% of 30 ?

.....
(Total for Question 8 is 3 marks)

9. Expand and simplify $4(2a - b) - 5(2a - 3b)$

.....
(3)
(Total for Question 9 is 3 marks)

10. Solve the simultaneous equations

$$4x + 3y = 17$$

$$3x - 5y = -9$$

$x = \dots\dots\dots, y = \dots\dots\dots$

(Total for Question 10 is 4 marks)

11. Two cubical dice each have faces numbered 1, 2, 3, 4, 5, 6. When both dice are thrown what is the probability that the total score is a prime number ?

(Total for Question 11 is 4 marks)

12. $m = 4x^2 - pq$

$$p = -4$$

$$q = 5$$

$$x = 3$$

(a) Work out the value of m .

.....
(3)

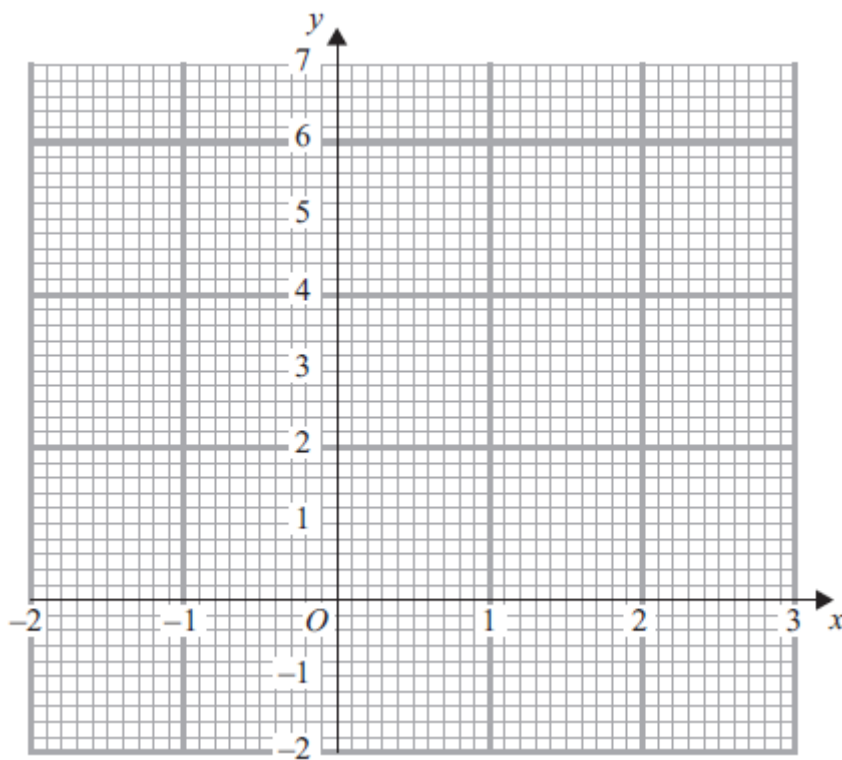
(Total for Question 12 is 3 marks)

13. (a) Complete the table of values for $y - x = 1$

x	-2	-1	0	1	2	3
y	-1		1			

(2)

(b) On the grid, draw the graph of $y - x = 1$



(2)

(Total for Question 13 is 4 marks)

14. $-1 < n \leq 8$
 n is an integer.

(a) Write down all the possible values of n .

.....
(2)

(b) Solve the inequality $8x - 5 > 17$

.....
(2)

(Total for Question 14 is 4 marks)

15. (a) Simplify $c^{-6} \times c^9$

.....
(1)

(b) Simplify $\frac{p^6}{p^{-5}}$

.....
(1)

(Total for Question 15 is 2 marks)

16. My children are all at school (aged between 5 and 18). The product of their ages is 60060. How many children have I got ?

.....
(3)

(Total for Question 16 is 3 marks)

17. On holiday I always wear pants, shorts, T-shirt and sunglasses. I have to put on the T-shirt before the sunglasses, and pants before the shorts. Each day I dress in a different order. For how long can I keep this up ?

.....
(3)

(Total for Question 17 is 3 marks)

END OF PAPER