Topic test 5 Integers

- Time allowed: 45 minutes.
- Part A: 20 multiple-choice questions (40 marks)
- Part B: 12 free-response questions (60 marks)

Name: _____

Part A

20 multiple-choice questions
2 marks each: 40 marks
Circle the correct answer each time.

1 $5 - 8 = ?$

A 13 **B** -13
C -3 **D** 3

2 $-10 + 3 = ?$

A -7 **B** 7
C -13 **D** 13

3 $9 + (-1) = ?$

A -10 **B** -8
C 8 **D** 10

4 $-4 \times (-6) = ?$

A 24 **B** -24
C 10 **D** -10

5 $-6 - 1 = ?$

A 7 **B** -7
C 5 **D** -5

6 $\frac{-5}{-5} = ?$

A 0 **B** 1
C -10 **D** 10

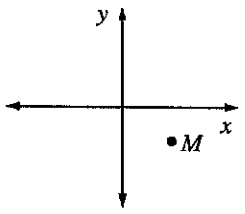
7 $8 - (-4) = ?$

A 4 **B** 2
C 12 **D** 6

8 In the afternoon, the temperature went up by 6° to 4°C. What was the temperature before it rose?

A 2°C **B** -2°C
C 10°C **D** -10°C

9 In which quadrant of this number plane is point M?



A 1st quadrant **B** 2nd quadrant
C 3rd quadrant **D** 4th quadrant

10 $-10 + (-6) = ?$

A -16 **B** 16
C 4 **D** -4

11 $(-3)^2 = ?$

A 6 **B** -6
C 9 **D** -9

12 When a space shuttle is launched, the time 10 seconds *before* take-off is called $T - 10$ and the time 10 seconds *after* take-off is called $T + 10$. If the time now is $T - 4$, what will be the time in 5 seconds?

A $T - 9$ **B** $T - 1$
C $T + 9$ **D** $T + 1$

13 $-3 + 3 = ?$

A 1 **B** -1
C 0 **D** -6

14 $-4 + 7 - 2 = ?$

A 1 **B** 9
C -1 **D** -5

15 $3 \times 5 \times (-2) = ?$

A 6 **B** -16
C 9 **D** -30

16 $\frac{-4 \times 4}{-8} = ?$

A -2 **B** 2
C 1 **D** -1

17 What is the difference between 5 and -5?

A 1 **B** 9
C 0 **D** 10

18 In which quadrant of the number plane is the point (-3, -2) found?

A 1st quadrant **B** 2nd quadrant
C 3rd quadrant **D** 4th quadrant

19 On a number plane, the point (0, -4) lies on which of the following?

A the origin
B the negative quadrant
C the x-axis
D the y-axis

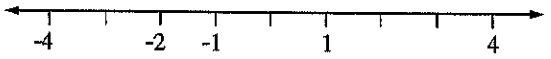
20 The product of a positive integer and a negative integer is which of the following?

A always positive
B always negative
C always zero
D can be positive, negative or zero

Part B

12 free-response questions
60 marks
(Show your working where appropriate.)

21 (2 marks) Fill in the missing values on this number line.



22 (2 marks) Write these numbers in **ascending** order.

-3, 0, 4, -10

23 (2 marks) Place > or < in the spaces to make each statement true:

a 3 ___ -5 **b** -4 ___ -2

24 (3 marks) The temperature was 8°C twelve hours ago. Now it is -2°C.

a Has the temperature gone up or down?
b By how many degrees has the temperature changed?

25 (14 marks) Simplify:

a -3×6 **b** $-2 \times (-5)$
c $-27 \div (-3)$ **d** $-16 \div 8$
e $\frac{-20}{-2}$ **f** $18 \div (-3) \times (-2)$
g $-4 + 9 \times (-1)$

26 (3 marks) Add these five numbers together:

6, -3, -10, 5, -1

27 (12 marks) Simplify:

a $3 - 2 \times 5$ **b** $-10 + 4 \div 2$
c $(3 - 5) \times 4$ **d** $-5 - (-7)$
e $(-2)^3$ **f** $\frac{-6 + 8}{-2}$

28 (2 marks) Misty was in a lift and went down from the 18th floor of her office building to the car park 3 floors below ground. How many floors did she go down?

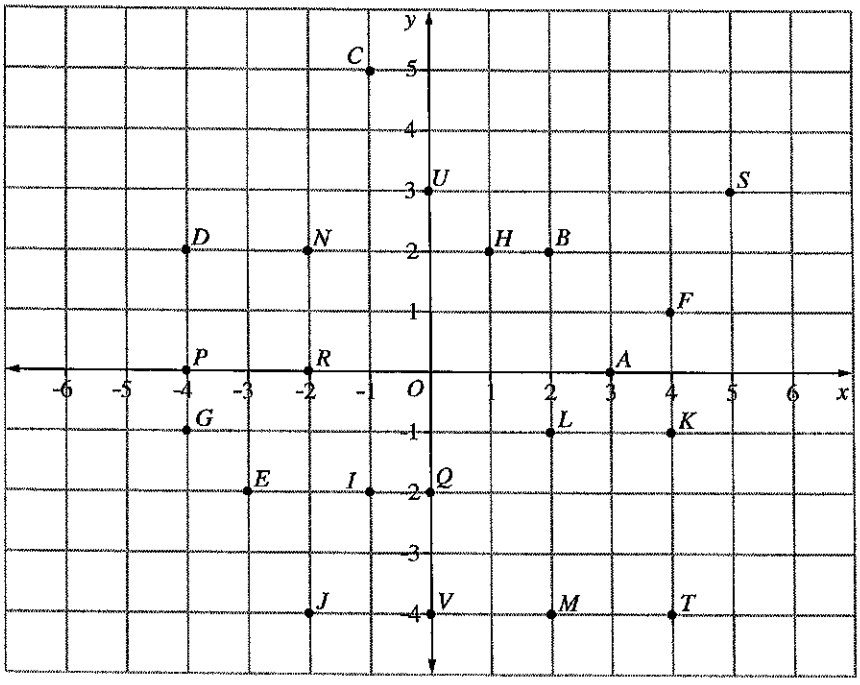
29 (6 marks) For the number plane below, write the coordinates of these six points:

a *K* **b** *C* **c** *I*
d *U* **e** *F* **f** *D*

30 (6 marks) For the number plane below, write the letter identifying each point that has these coordinates:

a (-3, -2) **b** (1, 2) **c** (4, -4)
d (2, -4) **e** (0, -2) **f** (-4, -1)

Diagram for Questions 29 and 30.



31 (6 marks)

a Plot these four points on the number plane below:

***A*(-3, 1), *B*(1, 3), *C*(4, 1), *D*(-2, -2)**

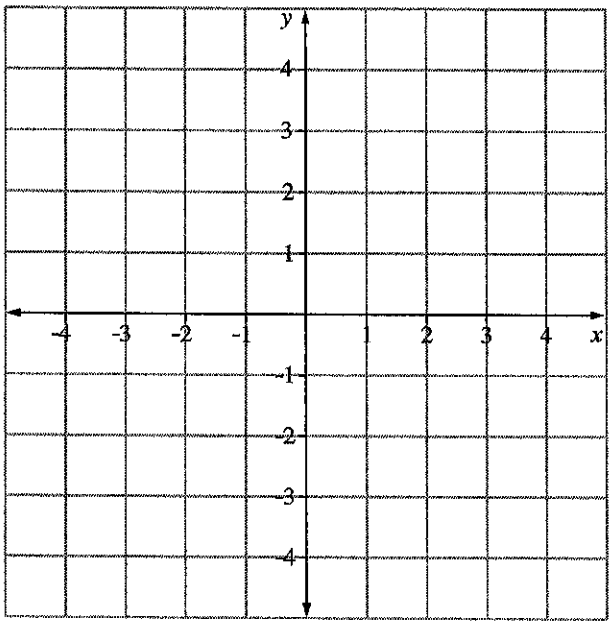
b Join the points in the order *ABCDA* to make a four-sided shape. What shape have you drawn?

32 (2 marks) Write the coordinates of:

a any point that lies on the *x*-axis

b the origin.

Diagram for Question 31.



This is the end of the test.
Use the space below and the back for extra working space.