



Sponsor of

THE HUNTER PRIMARY MATHEMATICS COMPETITION

Wednesday, September 1st, 1999

Time allowed: 45 minutes

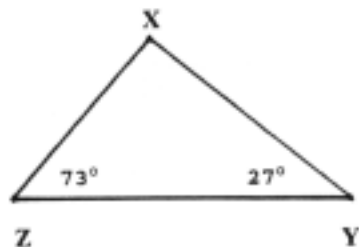
Instructions:

1. Do **NOT** open this booklet until told to do so by your teacher.
2. Calculators, rulers, geometrical instruments or other aids are **NOT** permitted. Working paper will be supplied by your teacher if required. **NO** working is to be shown on your answer sheet.
3. All answers **MUST** be recorded in **PENCIL** on your answer sheet. A **2B PENCIL** is recommended.
4. When your teacher gives the signal, begin working on the problems. You have 45 minutes working time.
5. Diagrams are **NOT** drawn to scale. They are intended as aids only.
6. Marks will **NOT** be deducted for incorrect answers.

SECTION A

Each question in this section is worth 2 marks.

- $276 + 34 = ?$
(A) 210 (B) 300 (C) 310 (D) 400
- How many diagonals has a rhombus?
(A) 1 (B) 2 (C) 4 (D) 6
- $407 \times 8 = ?$
(A) 376 (B) 3206 (C) 3256 (D) 32056
- 42 hundreds and 76 is:
(A) 4276 (B) 42 076 (C) 420 076 (D) 4 200 076
- There were 87 grams of sugar left in a bag which, when full, contained 1 kilogram of sugar. How much sugar had been used?
(A) 13 g (B) 23 g (C) 913 g (D) 923 g
- $4024 \div 4 = ?$
(A) 101 (B) 106 (C) 1001 (D) 1006
- How many edges has a square prism?
(A) 4 (B) 6 (C) 8 (D) 12
- What is the size of the angle at X in the triangle XYZ?



- (A) 80° (B) 90° (C) 100° (D) 110°

9. What is the next number in this number pattern?

62, 53, 44, 35, 26, ___

(A) 16 (B) 17 (C) 18 (D) 19

10. Hannah bought 4 chocolate frogs at 37 cents each and 3 toffee sticks at 19 cents each. How much change from \$5.00 should she have been given?

(A) \$2.05 (B) \$2.95 (C) \$3.05 (D) \$3.95

11. The diagram shows that a centimetre rule is used to measure the length of a shaded strip. How long is this strip?



(A) 0.83 m (B) 0.83 cm (C) 83 mm (D) 830 mm

12. $\frac{1}{2} + \frac{3}{4} = ?$

(A) 1.25 (B) $\frac{2}{3}$ (C) $\frac{4}{6}$ (D) $\frac{5}{8}$

13. The amount of liquid left in the 750 mL bottle is shown in the diagram. Which of the following statements is **correct**?

(A) The amount of liquid in the bottle is more than 375 mL.
(B) The amount of liquid in the bottle is less than 375 mL.
(C) The amount of liquid in the bottle is 375 mL.
(D) 50% of the liquid has been used.



14. What 3D figure can be formed by folding this shape along the dotted lines?

(A) a triangular prism
(B) a triangular pyramid
(C) a rectangular pyramid
(D) a rectangular prism



15. In a classroom there was an analog clock which showed the **correct** time of "**25 minutes to 11**". At that same time, and in the same classroom, there was also a digital clock which showed the time as 10:25.

Which of the following statements is correct?

- (A) **Both clocks** displayed the same time.
- (B) The **digital clock** was 10 minutes fast.
- (C) The **analog clock** was 10 minutes slow.
- (D) The **digital clock** was 10 minutes slow.

SECTION B

Each question in this section is worth 3 marks.

16. Anne and her three friends earned \$51.00 by collecting drink cans. How much would they each receive when they shared their earnings equally?

- (A) \$12.75
- (B) \$13.00
- (C) \$17.00
- (D) \$204.00

17. 1999 is the numeral that represents this calendar year. Leap years occur every four years except for century years not divisible by 400. Which of the following years is **not** a leap year?

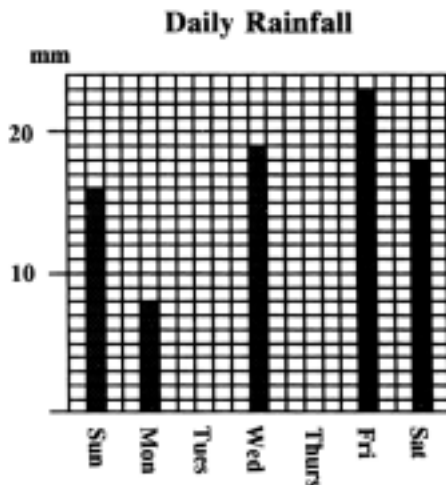
- (A) 1600
- (B) 1804
- (C) 1900
- (D) 2000

18. Three cubical dice, with their faces numbered 1, 2, 3, 4, 5 and 6 in the usual way, are rolled. A score is obtained by adding the number values which appear on the uppermost face of each die. Which of the following statements is **TRUE**?

- (A) The score obtained must be a multiple of three.
- (B) The score obtained must be an even number.
- (C) The lowest score you could obtain would be 1.
- (D) The highest score you could obtain would be 18.

19. After spending 20% of the money in her savings account on Christmas presents, Maree had \$60.00 left in her account. How much did she spend?
- (A) \$12.00 (B) \$15.00 (C) \$240.00 (D) \$300.00
20. In any polyhedron, $F + V - 2 = E$, where V is the number of vertices, F is the number of faces and E is the number of edges. The dodecahedron is a polyhedron which has 12 faces and 30 edges. How many vertices must it have?
- (A) 12 (B) 16 (C) 18 (D) 20

21. This graph shows the daily rainfall for a week. What was the average daily rainfall for that week?



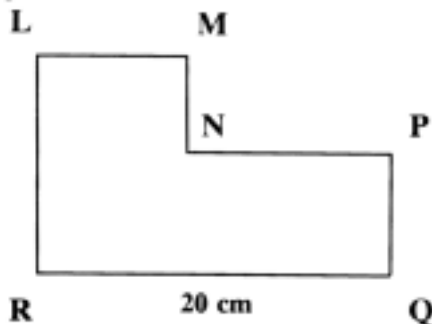
22. Natalie stood and faced West. While standing at the same spot, she turned in a clockwise direction through an angle of 315 degrees. What direction was she then facing?
- (A) North-East (B) North-West (C) South-East (D) South-West
23. If $\square = 0.75 \times 399 \times 3$ then \square would be a number between:
- (A) 700 and 800
 (B) 800 and 900
 (C) 900 and 1000
 (D) 1000 and 1100

24. A merry-go-round takes 5 minutes for a group of 7 children to complete a ride together. Ryan joins the queue of children waiting for a ride just as a group of 7 children complete their ride. He discovers that there are 19 children in the queue ahead of him. How long would Ryan have to wait for his ride to start if each child ahead of him has only one ride on the merry-go-round?
- (A) 35 minutes (B) 20 minutes (C) 15 minutes (D) 10 minutes
25. 10% of 1997's rainfall fell during November. Which of the following statements is **TRUE**?
- (A) Less than 1997's monthly average rainfall fell during November.
 (B) More than 1997's monthly average rainfall fell during November.
 (C) 100 mm of rain fell during November, 1997.
 (D) 120 mm of rain fell during November, 1997.

SECTION C

Each question in this section is worth 4 marks.

26. **LMNPQR** is formed by joining two rectangles.
 The perimeter of **LMNPQR** is 64 cm.
 The length of **RQ** is 20cm.
 What is the length of **LR**?



27. The square **QRST** has an area of 16 cm^2 .
X is the midpoint of **QR**. **Y** is the midpoint of **QT**.
 What is the area of the shaded region **XRTY**?



- (A) 9 cm
 (B) 10 cm
 (C) 11 cm
 (D) 12 cm
- (A) 2 cm^2
 (B) 3 cm^2
 (C) 5 cm^2
 (D) 6 cm^2

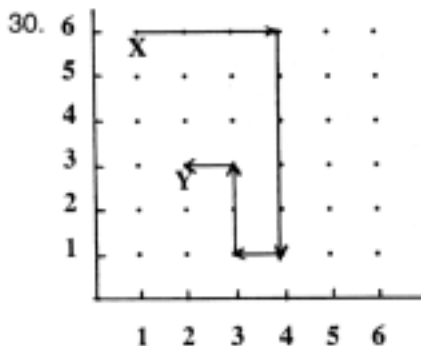
28. Today, Penny announced at her birthday party that on her previous birthday, her age was a "**square number**" and that on her next birthday, her age would be a "**cube number**". In how many more years would Penny's age be **both** a "square number" and a "cube number"?

(Hint: 9 is a **square number** because $3^2 = 9$.
8 is a **cube number** because $2^3 = 8$.)

- (A) 36 (B) 37 (C) 38 (D) 39

29. The length of each edge of an **open** cubical box is 3 cm. This box is filled with cubes which have a 1 cm edge. How many of these cubes do **not** touch either the bottom or sides of the box?

- (A) 1 (B) 2 (C) 3 (D) 9



In this diagram, X is the point (1,6) and Y is the point (2,3). The path from X to Y is represented by the direction code:

3 →, 5 ↓, 1 ←, 2 ↑, 1 ←.

If a path with the direction code:

2 ←, 3 ↑, 4 →, 3 ↓.

is drawn from the point (3,2), at which of the following points would this path finish?

- (A) (5, 2) (B) (4, 3) (C) (4, 2) (D) (2, 5)

31. In his go-cart, Jason took 20 seconds to travel 250 metres. What was his speed in kilometres per hour?

- (A) 75 km/h (B) 60 km/h (C) 45 km/h (D) 30 km/h

32. The foreign exchange rates displayed at the time Gulliver entered the airport's money exchange centre are shown in the table.

Using this table's information, how much in Australian Dollars could he purchase with £1000.00 Sterling?

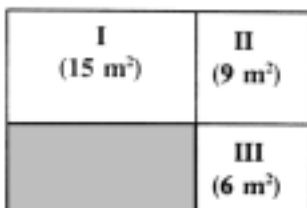
Exchange Rates	
One Australian Dollar will buy:	
	£0.40 Sterling
	\$0.55 Euro
	\$0.64 USA

- (A) \$400.00 (B) \$2000.00 (C) \$2500.00 (D) \$4000.00

PLEASE TURN OVER FOR QUESTIONS 33 TO 35

33. When Friday falls on the 13th day of a month, it is called "**Black Friday**". In 1990 the 13th April was a "**Black Friday**". What was the next month in 1990 to have a "**Black Friday**"?
- (A) July (B) August (C) September (D) October

34. Q



R The rectangle QRST is divided into 3 rectangles and one square as shown in the diagram.

The areas of the rectangles, regions I and III, and the square, region II, are shown in the diagram.

What is the area of the shaded rectangle?

T

S

- (A) 9 m² (B) 10 m² (C) 11 m² (D) 12 m²

35.

+	k	m
e	y	q
f	p	z

Each letter used in the addition and multiplication tables shown stands for a different number value.

The following examples show how the tables are to be read.

Example i): $m + e = q$
 ii): $g \times w = r$

Which letter would stand for the answer to:

$$\frac{k + e}{z - f} = ?$$

- (A) g (B) j (C) s (D) w

END OF EXAMINATION