THE NEWCASTLE PERMANENT

PRIMARY MATHEMATICS COMPETITION

Wednesday, 31 August, 2005

Time allowed: 45 minutes

Instructions:

1. When asked by your teacher, open this booklet and check to see that there are 35 questions.

2. Calculators, rulers, geometrical instruments or other aids are **NOT** permitted.

3. **NO** working is to be shown on your answer sheet. Working paper will be supplied by your teacher if required.

4. All answers **MUST** be recorded in **PENCIL** on your answer sheet.

5. When your teacher gives the signal, begin working on the problems. You have 45 minutes working time.

6. Marks will **NOT** be deducted for incorrect answers.

SECTION A

Each correct answer in this section is worth 2 marks.

1. What is the next number in this pattern?

   7, 11, 15, 19, 23, 27, _____

   (A) 29 (B) 31 (C) 32 (D) 33

2. Ryan had $4 and bought an ice cream costing $2.15. How much does he have left?

   (A) $1.15 (B) $1.75 (C) $1.85 (D) $2.85

3. 327
   x 5
   ___   The answer is:

   (A) 1635 (B) 1605 (C) 1535 (D) 1505

4. The sides of a triangle are 4 cm, 5cm and 6 cm. The perimeter of this triangle is:

   (A) 7.5 cm (B) 10 cm (C) 12 cm (D) 15 cm

5. The difference between two numbers is 347. If the larger number is 524, then the other number is:

   (A) 177 (B) 187 (C) 277 (D) 871

6. $3146 + 261 + 35 =$

   (A) 3332 (B) 3442 (C) 3712 (D) 3757

7. The Roman Numeral LXXIX is:

   (A) 74 (B) 79 (C) 81 (D) 129

8. What digit replaces ♥?

$$6\overline{)24♥}$$ $$41\,r2$$

   (A) 2   (B) 4   (C) 6   (D) 8

9. The total mass of three objects weighing 2.5 kg, 350 g and 25 g is:

   (A) 377.5 g   (B) 625 g   (C) 2.875 kg   (D) 3.1 kg

10. How many letters contained in the word **GEOMETRY** do **NOT** have any lines of symmetry?

   (A) 1   (B) 2   (C) 3   (D) 6

11. One and two hundredths is:

   (A) 0.102   (B) 1.002   (C) 1.02   (D) 201

12. Of the four numbers 287, 965, 46 and 956, the sum of the smallest and the largest is:

   (A) 1002   (B) 1011   (C) 1243   (D) 1921

13. An object displaces 400 mL of water. Its volume must be:

   (A) 4 L   (B) 400 mm³   (C) 400 m³   (D) 400 cm³

14. Rui arrived at the Station and checked the timetable. The trains to Fassifern leave at 3:01pm, 3:13pm, 3:30pm, 3:45pm and 4:26pm. The station clock showed that it was *"twenty to four"*. How many minutes did Rui wait to catch the next train to Fassifern?

   (A) 5 minutes   (B) 6 minutes   (C) 15 minutes   (D) 46 minutes

15. A car travels for 4 hours at a speed of 76 km/h. The distance travelled is nearest:

   (A) 20 km   (B) 290 km   (C) 300 km   (D) 310 km

SECTION B
Each correct answer in this section is worth 3 marks.

16. $\dfrac{2}{3} + \dfrac{1}{6} =$

   (A) $\dfrac{3}{9}$ (B) $\dfrac{3}{6}$ (C) $\dfrac{5}{6}$ (D) 1

17. The group that contains three prime numbers is:

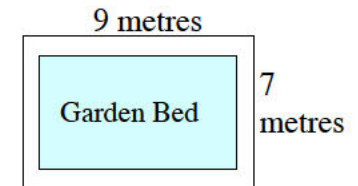   (A) 3, 9, 17   (B) 2, 8, 14   (C) 1, 9, 25   (D) 2, 11, 23

18. Which of the following does **NOT** equal 25%?

   (A) $\dfrac{6}{30}$ (B) $\dfrac{20}{80}$ (C) 0.25   (D) $\dfrac{3}{12}$

19. Fence posts are placed 3 metres apart. The number of posts needed to build a fence around a triangular region with sides 21 metres, 21 metres and 30 metres is:

   (A) 23   (B) 24   (C) 25   (D) 27

20. A garden bed has a one metre wide path around it as shown in the diagram. The outer dimensions of the path are 9 metres by 7 metres. The area of the garden bed is:

   9 metres

   Garden Bed   7 metres

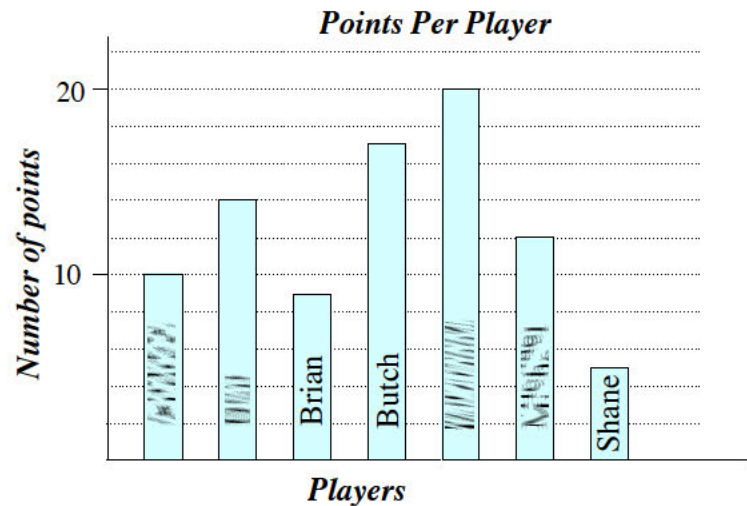   (A) 24 m²   (B) 35 m²   (C) 48 m²   (D) 63 m²

21. Yusef averages 79% in five Mathematics Tests. What must he score in the next test to bring his average up to 81%?

   (A) 2%   (B) 81%   (C) 91%   (D) 97%

22. A light flashes every 6 minutes and a bell rings every 8 minutes. If the light flashes as the bell is ringing, how many minutes will it be before this happens again?

(A) 18 minutes   (B) 24 minutes   (C) 30 minutes   (D) 48 minutes

23. The graph shows the points scored by players in our team in a basketball match. The total number of points scored by our team was:

Points Per Player

(A) 79   (B) 84   (C) 86   (D) 87

24. The correct answer for $341 \div 4$ is:

(A) 85   (B) $85\frac{1}{341}$ (C) 85.1   (D) $85\frac{1}{4}$

25. The year 2006 has the units digit equal to three times the thousands digit. How many years after 2006 will it be before this next happens?

(A) 10   (B) 54   (C) 594   (D) 1003

26. Anna noted that she added 354 instead of 35.4 on her calculator. In order to correct this error with a single operation she should now:

(A)   subtract 318.6
(B)   add 318.6
(C)   add 389.4
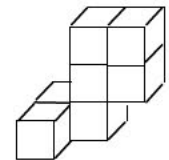(D)   subtract 389.4

27. If two sides of an isosceles triangle were 8 cm and 20 cm, then the third side must be:

(A) 8 cm   (B) 12 cm   (C) 16 cm   (D) 20 cm

28. Joan has a set of 100 cards numbered in order from 1 to 100. She forms pairs of cards which have a sum of 50, such as 12 and 38. The number of possible pairs that can be formed is:

(A) 50   (B) 25   (C) 24   (D) 23

29. Seven cubes, each with 1 centimetre edges, are glued together as shown. The total surface area of this solid is:

(A) 14 cm²   (B) 28 cm²   (C) 35 cm²   (D) 42 cm²

30. A scoop is used to take a sample of 10 cubes from a bag of 2000 cubes. In the sample there are 3 red cubes, 5 blue cubes and 2 yellow cubes.

The predicted number of yellow cubes in the bag is:

(A) 100   (B) 200   (C) 400   (D) 600

31. How many whole numbers between 500 and 2000 have all three of the numbers 15, 20 and 25 as factors?

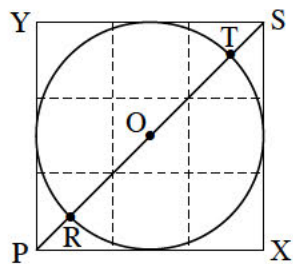   (A) 3   (B) 4   (C) 5   (D) 6

32. Whole numbers are written in increasing order in groups of five so that the first row contains 1, 2, 3, 4, 5, the second row contains 6, 7, 8, 9, 10.

1st row	1	2	3	4	5
2nd row	6	7	8	9	10

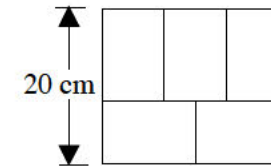If the table is extended, which row has a sum nearest to the value 150 :

   (A) 5th   (B) 6th   (C) 7th   (D) 8th

33. Look at the diagram of a circle drawn in a square. Which statement is **True**?

   (A) Length of PT > length of RS.

   (B) Length of SX < length of RT.

   (C) Length of PX > twice the length of OT.

   (D) Lengths of PX, SX and RT are equal.

34. Five identical rectangles fit together as shown. The area covered by the five rectangles is:

   (A) 480 cm²   (B) 420 cm²   (C) 400 cm²   (D) 375 cm²

35. The value of $13 \times 12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$ is

   (A)   6 227 020 008
   (B)   6 227 020 080
   (C)   6 227 020 800
   (D)   6 227 028 000

THERE ARE NO MORE QUESTIONS