

THE NEWCASTLE PERMANENT

PRIMARY MATHEMATICS COMPETITION

Wednesday, 30 August, 2006

Time allowed: 45 minutes

Instructions:

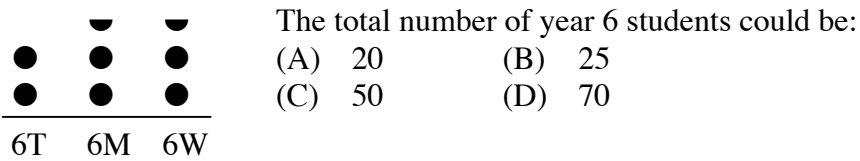
1. When asked by your teacher, open this booklet and check to see that there are 35 questions.
2. Calculators, rulers, geometrical instruments or other aids are **NOT** permitted.
3. **NO** working is to be shown on your answer sheet. Working paper will be supplied by your teacher if required.
4. All 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. Thirty thousand three hundred and three is:
(A) 30033 (B) 30303 (C) 33003 (D) 33030
2.
$$\begin{array}{r} 6027 \\ - 3835 \\ \hline \end{array}$$
 The answer is:
(A) 2112 (B) 2192
(C) 2292 (D) 3192
3. In the set of numbers 2784, 2874, 2478, 2487, 2748, the second largest number is:
(A) 2478 (B) 2487 (C) 2748 (D) 2784
4. The product of two numbers is 304. One of the numbers is 4. The other number is:
(A) 66 (B) 71 (C) 76 (D) 1216
5. 65 in Roman Numerals is:
(A) CXV (B) DXV (C) LXV (D) MXV
6. The expression that has a value between 1 and 2 is:
(A) $\frac{5+3}{8}$ (B) $\frac{10+3}{8}$ (C) $\frac{11-4}{8}$ (D) $\frac{21-4}{8}$
7. A car travels 352 km in 4 hours. Its speed in km/h is:
(A) 78 (B) 82 (C) 88 (D) 1408
8. A pencil and an eraser together cost \$1.10. The eraser costs 80 cents more than the pencil. The cost of the eraser is:
(A) 15 c (B) 30 c (C) 40 c (D) 95 c
9. 40% of 40 is:
(A) 1 (B) 16 (C) 160 (D) 1600

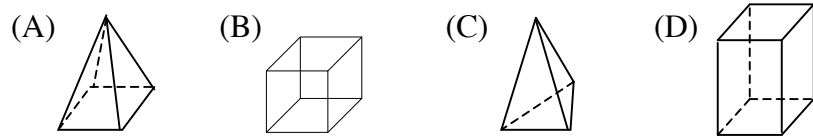
10. ● represents 10 students.
In a school there are three year 6 classes. The pictogram shows the number of students in each class.



11. The Commonwealth Games commenced on Wednesday 15th March and ended on Sunday 26th March. The number of days on which the games were held was:

- (A) 11 (B) 12 (C) 13 (D) 14

12. The diagram that represents a square pyramid is:



13. At Newcastle beach the tides alternate between high and low. On a particular day the time between the high and the low tide is 6 hours and 15 minutes. A high tide is at 8:22 am. The next low tide is at:

- (A) 2:07 am (B) 2:27 pm (C) 2:37 pm (D) 8:52 pm

14. Which is the longest length?

- (A) $\frac{3}{4}$ m (B) 0.8 m (C) 600 mm (D) 70 cm

15. A coal train consists of 2 engines, each with a mass of 180 tonne and 70 coal wagons each with a loaded mass of 120 tonne. The total mass of the train is closest to:

- (A) 1200 tonne (B) 8400 tonne
(C) 8600 tonne (D) 8800 tonne

SECTION B

Each correct answer in this section is worth 3 marks.

16. $1.6 \div 4 =$

- (A) 0.04 (B) 0.12 (C) 0.4 (D) 4

17. Cynthia thinks of a number, doubles it and then adds 7. This gives her a total of 25. The original number is:

- (A) 9 (B) 10 (C) 16 (D) 18

18. How many even prime numbers are there between 1 and 20?

- (A) 0 (B) 1 (C) 8 (D) 9

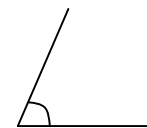
19. I plan to hold a meeting on the first Tuesday of each month. The latest possible date in the month for this meeting is:

- (A) 1st (B) 2nd (C) 7th (D) 8th

20. $\frac{3}{4} - \frac{1}{8} =$

- (A) $\frac{1}{4}$ (B) $\frac{1}{2}$ (C) $\frac{5}{8}$ (D) $\frac{7}{8}$

- 21.



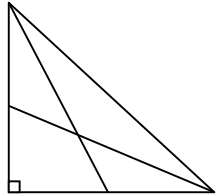
The best estimate for the size of this angle is:

- (A) 30° (B) 45° (C) 60° (D) 90°

22. The students in a year 6 class were asked how they travelled to school each morning. Their answers are given in the table:

| Travel to School | Boys | Girls |
|------------------|------|-------|
| Walk | 6 | 5 |
| Bike | 3 | 5 |
| Bus | 4 | 2 |
| Car | 2 | 3 |

The fraction of the class that rides a bike to school is:

- (A) $\frac{1}{6}$ (B) $\frac{1}{5}$ (C) $\frac{4}{15}$ (D) $\frac{1}{10}$
23. How many acute angles are shown in this diagram?
- 
- (A) 8 (B) 9
(C) 10 (D) 11
24. Which statement is true?
- (A) $\left(\frac{1}{2}\right)^3 = \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$ (B) $\left(\frac{1}{2}\right)^3 = \frac{1}{8}$
(C) $\left(\frac{1}{2}\right)^3 = \frac{1}{6}$ (D) $\left(\frac{1}{2}\right)^3 = 3 \times \frac{1}{2}$
25. Of the following sets of angles, the one which gives the angles of an acute-angled isosceles triangle is:
- (A) $30^\circ, 60^\circ, 90^\circ$ (B) $40^\circ, 40^\circ, 100^\circ$
(C) $70^\circ, 70^\circ, 60^\circ$ (D) $55^\circ, 70^\circ, 55^\circ$

SECTION C

Each correct answer in this section is worth 4 marks.

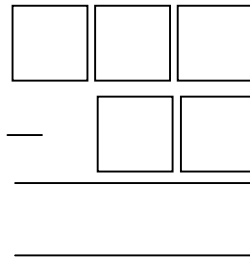
26. Which statement is **FALSE**?
- (A) A number that has a factor of 6 must also have a factor of 2.
(B) A number that has a factor of 5 must end in 0.
(C) A number that ends in 48 must have a factor of 4.
(D) The number 12321 has a factor of 9.
27. A rectangle has a perimeter of 24 cm. The length of each side is a whole number of centimetres. Which answer could **NOT** be the area of the rectangle?
- (A) 11cm^2 (B) 20cm^2 (C) 32cm^2 (D) 40cm^2
28. In most chess competitions players get 1 point for winning a game, $\frac{1}{2}$ a point for a draw and no points for losing. Madeline played 7 games of chess and only lost 1 game. Her final score was 5. How many games did she draw?
- (A) 1 (B) 2 (C) 3 (D) 4
29. In magic squares, the numbers in every row, column and the two diagonals add up to the same number.

| | | |
|---|---|---|
| 4 | 8 | 9 |
| | 7 | |
| | | |

The sum of the missing numbers in this magic square is:

- (A) 12 (B) 21
(C) 28 (D) 35

30. Each of the digits 3, 5, 6, 7 and 8 is placed one to a box in the diagram.

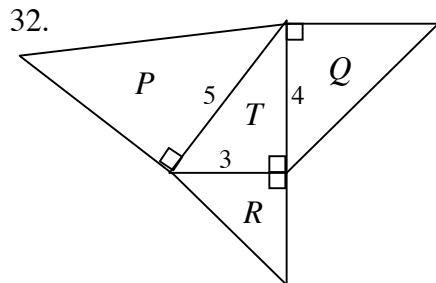


The two digit number is then subtracted from the three digit number.

The smallest difference is:

- (A) 261 (B) 269 (C) 271 (D) 278
31. An **open** cubic box with 5 cm sides contains 125 neatly packed cubes, each with a volume of 1 cm^3 . The number of cubes touching only one face of the box is:

- (A) 45 (B) 54 (C) 57 (D) 125



The diagram shows right-angled isosceles triangles constructed on each side of the right-angled triangle with sides 3 cm, 4 cm and 5 cm.

The capital letter represents the area of each triangle.

Which one of the following is true?

- (A) $P + Q = R + T$ (B) $T + Q + R = P$
- (C) $R + T = P$ (D) $Q + R = P$
33. The smallest number, with the property that on division by each of 2, 3, 4, 5 and 6 the remainder is one less than the divisor, is:
- (A) 35 (B) 59 (C) 61 (D) 479

34. Amber and Bruce are walking in **opposite** directions around a circular track at a constant speed. It takes Amber 60 seconds to go once around the circular track. Bruce starts from the same place at the same time as Amber and they pass every 20 seconds.

How long does it take for Bruce to go around the track once?

- (A) 20 sec (B) 30 sec (C) 40 sec (D) 60 sec

- 35.

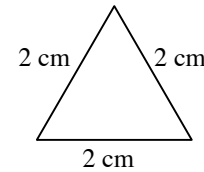


Fig. 1

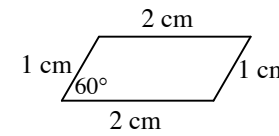


Fig. 2

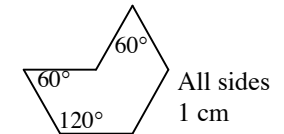


Fig. 3

Consider the area of each of the three given figures.

Which statement is **TRUE**?

- (A) Area of Fig. 1 > Area of Fig. 2
- (B) Area of Fig. 2 > Area of Fig. 3
- (C) Area of Fig. 1 > Area of Fig. 3
- (D) Figures 1, 2 and 3 have equal areas.

THERE ARE NO MORE QUESTIONS.