



THE NEWCASTLE PERMANENT

PRIMARY MATHEMATICS COMPETITION

Wednesday, 27 August, 2008

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. (a **B** pencil or softer)
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.

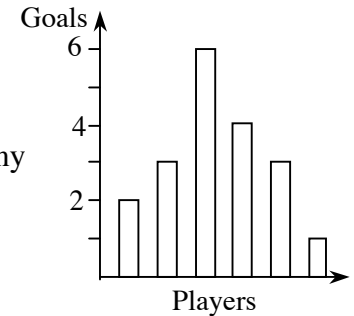
1. The next number in the pattern 39, 35, 31, 27, 23, 19, ___ is:
(A) 18 (B) 17 (C) 16 (D) 15
2.
$$\begin{array}{r} 3924 \\ - 2137 \\ \hline \end{array}$$
 The answer is:
(A) 1787 (B) 1797
(C) 1813 (D) 1883
3. When the numbers 9, 3, 6, 0, 2 are arranged from smallest to largest the middle number is:
(A) 3 (B) 6 (C) 0 (D) 2
4. When 214 is multiplied by 7 the answer is:
(A) 1478 (B) 1498 (C) 1678 (D) 1698
5. The Roman Numeral DCIV represents:
(A) 64 (B) 409 (C) 604 (D) 609
6. The sides of a triangle are 3 cm, 4 cm and 6 cm. The perimeter of the triangle is:
(A) 6 cm (B) 9 cm (C) 12 cm (D) 13 cm
7. The number of odd numbers between 10 and 30 is:
(A) 10 (B) 11 (C) 15 (D) 20
8. The answer to $\frac{4}{10} + \frac{5}{100} + \frac{6}{1000} =$
(A) 0.456 (B) 0.4506 (C) 0.4056 (D) 0.0456

9. Louise drives for 6 hours at an average speed of 85 km/h. The distance Louise drives is:
- (A) 450 km (B) 480 km (C) 510 km (D) 570 km
10. 20% of 20 =
- (A) 1 (B) 4 (C) 5 (D) 400
11. Michael spikes his hair using gel. He uses 7 mL of gel every day. The number of days it takes him to empty a 224 mL tube of gel is:
- (A) 28 (B) 30 (C) 32 (D) 33
12. 7809 equals:
- (A) $(7 \times 10^4) + (8 \times 10) + 9$
 (B) $(7 \times 10^4) + (8 \times 10^3) + 9$
 (C) $(7 \times 10^3) + (8 \times 10) + 9$
 (D) $(7 \times 10^3) + (8 \times 10^2) + 9$
13. The average of 4, 4, 4, 5 and 5 is:
- (A) 4 (B) 4.2 (C) 4.4 (D) 4.5
14. If 12 345 is divided by 4 the remainder is:
- (A) 0 (B) 1 (C) 2 (D) 3
15. I am 5 years older than my sister. Our ages add up to 23 years. My age in years is:
- (A) 4 (B) 9 (C) 14 (D) 15

SECTION B

Each correct answer in this section is worth 3 marks.

16. Six football players take shots at goal. The graph shows the number of goals scored by each player. Joel scored the most goals and Ante the least. How many more goals did Joel score than Ante?

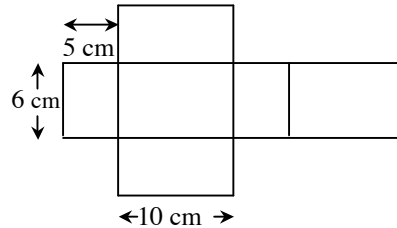


- (A) 1 (B) 4
(C) 5 (D) 6
17. Which is the best value for money?
- (A) \$2.95 per kg (B) 2.5 kg for \$7.50
(C) 500 g for \$1.49 (D) 31 c per 100 g.
18. The sum of two numbers is 527. If one of the numbers is 398, then the other number is:
- (A) 129 (B) 139 (C) 229 (D) 925
19. Which has the largest answer?
- (A) 2^4 (B) 3^3 (C) 4^3 (D) 5^2
20. The angle between the hands of a clock at half past two is:
- (A) 90° (B) 105° (C) 120° (D) 135°
21. Of the following sets of angles, the set which could be the angles of an obtuse-angled isosceles triangle is:
- (A) $40^\circ, 40^\circ, 100^\circ$ (B) $30^\circ, 50^\circ, 100^\circ$
(C) $45^\circ, 45^\circ, 90^\circ$ (D) $54^\circ, 54^\circ, 72^\circ$

22. An odd two-digit number is a multiple of 9. When its digits are multiplied the result is also a multiple of 9. The number is:

- (A) 27 (B) 36 (C) 49 (D) 63

23. The figure shown can be folded along the lines to form a rectangular prism



The volume of this rectangular prism is:

- (A) 21 cm^3 (B) 140 cm^3 (C) 280 cm^3 (D) 300 cm^3

24. The symbol

| | |
|---|---|
| 4 | 5 |
| 6 | 7 |

 is evaluated as $(4 \times 7) + (5 \times 6) = 58$.

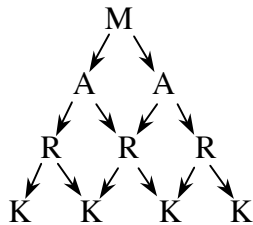
If

| | |
|---|---|
| 2 | 8 |
| 1 | * |

 is evaluated as 20, then the number that should replace the * is:

- (A) 4 (B) 5 (C) 6 (D) 7

25. In the diagram, how many paths can be taken to spell "MARK"?



- (A) 6 (B) 8 (C) 14 (D) 16

SECTION C

Each correct answer in this section is worth 4 marks.

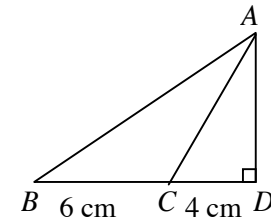
26. Anika has these two identical plastic shapes. She fits them together without overlapping to make new shapes. The shape that she CANNOT make is:

- (A) (B)
 (C) (D)

27. The value of $\frac{\frac{1}{2} + \frac{1}{2}}{\frac{1}{2}}$ is:

- (A) $\frac{1}{2}$ (B) 1 (C) $1\frac{1}{2}$ (D) 2

28. The distance from B to C is 6 cm and from C to D is 4 cm. The area of triangle ABC is 15 cm^2 . The area of triangle ABD is:



- (A) 20 cm^2 (B) 25 cm^2
 (C) 30 cm^2 (D) 50 cm^2

29. In a large hospital with several operating rooms, eleven people are each waiting for a 45 minute operation. The first operation starts at 8:00 am, the second at 8:15am, and each of the other operations starts at 15 minute intervals thereafter. The last operation ends at:

- (A) 10:30 am (B) 10:45 am
 (C) 11:00 am (D) 11:15 am

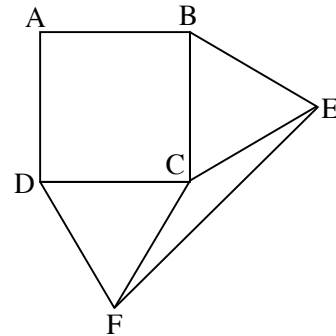
30. A square with sides of 4 cm is divided as shown and part of it is shaded. The fraction of the area of the square shaded is:

- (A) $\frac{3}{32}$ (B) $\frac{1}{8}$
 (C) $\frac{3}{16}$ (D) $\frac{3}{8}$

31. In the diagram, ABCD is a square. BCE and DCF are equilateral triangles.

The size of angle CFE is:

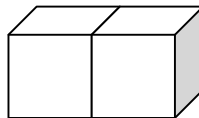
- (A) 15° (B) 30°
 (C) 60° (D) 150°



32. 41 is a prime number. If the order of its digits is reversed, it becomes 14 which is NOT a prime number. The number of two-digit prime numbers that DO give prime numbers when their digits are reversed is:

- (A) 8 (B) 9 (C) 10 (D) 11

33. The dots on the opposite faces of a die total 7. Two normal dice are placed next to each other on a table as shown. Kaspar walks around the table.



The greatest number of dots that Kaspar can see is:

- (A) 30 (B) 34 (C) 36 (D) 42

34. My jam recipe says that for each 700 grams of strawberries I need 600 grams of sugar. I picked 2.1 kilograms of strawberries and have 1.5 kilograms of sugar. I follow the recipe and make as much jam as possible. Left over will be:

- (A) 350 g strawberries (B) 300 g of sugar
 (C) 50 g strawberries (D) nothing

35. Each letter represents one of the digits 1, 2, 3, 4 or 5.

$$\begin{array}{r} KL \\ \times M \\ \hline PN \end{array}$$

The answer to this multiplication is correct. Which statement is correct?

- (A) $K = 3$ (B) $L = 3$ (C) $M = 3$ (D) $N = 3$

THERE ARE NO MORE QUESTIONS.