

**National Sports School Entrance Examination 2018**

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**YEAR 8**

**MATHEMATICS**  
**Paper 1**

**TIME: 30 minutes**

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Name: \_\_\_\_\_

Index Number: \_\_\_\_\_

Directions

- This paper contains 20 multiple choice questions.
- Answer **all** the 20 questions.
- For all questions:
  - Read each question carefully and **underline the correct answer**.
  - **Only one** of the answers provided is correct.
  - Calculators, protractors and other mathematical instruments **are not allowed**.
  - Each question carries 1 mark.

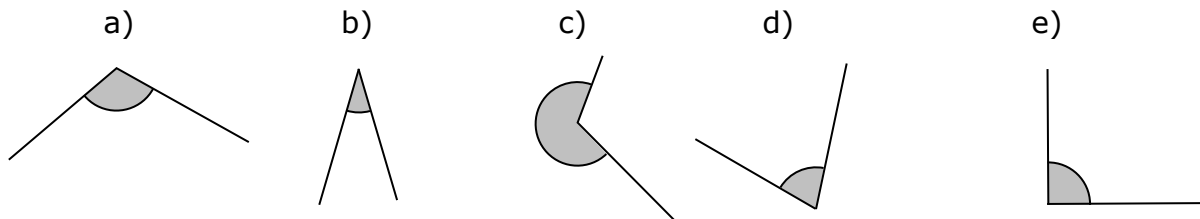
1) Which of the following numbers is not prime?

- a) 11      b) 31      c) 41      d) 51      e) 61
- 

2) What is the value of  $(-3) \times (8)$ ?

- a) 24      b) -24      c) 11      d) -11      e) -32
- 

3) Which of the following angles is closest to  $60^\circ$ ?



4) Which of the following is false?

- a)  $-3 < 0$       b)  $16 > 8 \div 2$       c)  $12\% = \frac{3}{50}$       d)  $2\frac{1}{4} = \frac{9}{4}$       e)  $\frac{3}{7} = \frac{15}{35}$
- 

5) The recurring decimal  $0.\dot{2}$  is equivalent to:

- a)  $\frac{1}{5}$       b)  $\frac{2}{5}$       c)  $\frac{1}{2}$       d)  $\frac{2}{9}$       e)  $\frac{5}{7}$
- 

6) Which of the following is the Highest Common Factor (HCF) of 18 and 24?

- a) 2      b) 3      c) 6      d) 8      e) 12
- 

7) Which is the next term of the sequence? 10.95 , 10.7 , 10.45 , 10.2 , \_\_\_\_\_

- a) 9.45      b) 9.7      c) 9.85      d) 9.95      e) 10
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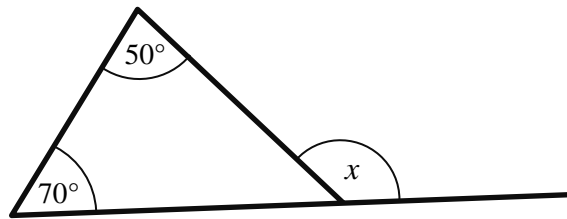
8)  $3\frac{3}{5}$  expressed as a decimal is:

- a) 3.35      b) 3.53      c) 3.6      d) 3.3      e) 33.5
-

9) Which of the following is equivalent to  $3x - 2y + z$  ?

- a)  $4x + y - x - y + z$       b)  $3y + 2x - z + 2z - y - x$       c)  $4y - 3z - 6y + 4z - 2y$   
d)  $6z - 5z + 4y + 3x - 6y$       e)  $3z - 2z + 4y - 2y + 3x$
- 

10) The angle marked  $x$  is equal to:



- a)  $20^\circ$       b)  $60^\circ$       c)  $110^\circ$       d)  $120^\circ$       e)  $130^\circ$
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11) Ryan sat for five tests in which he scored the following marks: 28, 28, 29, 32 and 38. The median mark is:

- a) 28      b) 29      c) 32      d) 41      e) 31
- 

12) The answer to  $2.05 + 3.6 \times 6$  is:

- a) 33.9      b) 11.65      c) 44.28      d) 26      e) 23.65
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13) Which of the following is the equation of the straight line graph that passes through the points  $(2, -4)$ ,  $(2, 0)$  and  $(2, 7)$ ?

- a)  $y = x + 2$       b)  $y = 2$       c)  $y = \frac{x}{2}$       d)  $x = -2$       e)  $x = 2$
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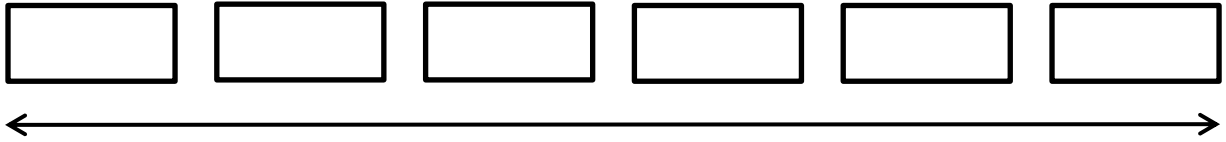
14) An orange coloured paint is obtained by mixing 500 ml of yellow with 200 ml of red. How much red must be mixed with 150 ml of yellow to get the same orange paint?

- a) 60 ml      b) 80 ml      c) 300 ml      d) 375 ml      e) 600 ml
-

15) A worker's regular pay is €6 an hour up to 40 hours per week. Overtime is paid at twice the rate for regular time. One week the worker was paid €336. How many hours of overtime did he do?

- a) 4                      b) 6                      c) 8                      d) 40                      e) 48

16)



All these rectangles are 3.2 cm long and 9 mm apart. The distance marked with the arrow is:

- a) 23.7 cm                      b) 24.6 cm                      c) 20.5 cm                      d) 2370 mm                      e) 2.46 cm

17) An empty can of soft drink weighs 15 g. When full it weighs 400 g. The percentage weight of the empty can is:

- a) 3%                      b) 15%                      c) 4.15%                      d) 3.75%                      e) 4%

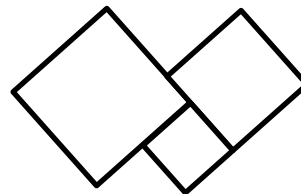
18) Which of the following bottles of shampoo is the least expensive per 100 ml?

- a) 300 ml at €2.25                      b) 400 ml at €2.96                      c) 450 ml at €3.15  
d) 1 litre at €6.50                      e) 2 litre at €12

19) The surface area of a cube is  $294 \text{ cm}^2$ . What is the volume of the cube?

- a)  $49 \text{ cm}^3$                       b)  $343 \text{ cm}^3$                       c)  $2.94 \text{ cm}^3$                       d)  $98 \text{ cm}^3$                       e)  $7 \text{ cm}^3$

20) The figure is made up of three squares of areas  $4 \text{ cm}^2$ ,  $9 \text{ cm}^2$  and  $16 \text{ cm}^2$ . Which of the following is the perimeter of the shape?



- a) 9 cm                      b) 26 cm                      c) 29 cm                      d) 36 cm                      e) 576 cm

End of Paper 1