

Section A

1. Calculate  $1.6 \times [(12 - 7.2) \div 0.4]$   
 A. 1.92                      B. 2.08                      C. 19.2                      D. 20.8
  
2. Simplify  $\frac{3}{4}(3x - 2) + \frac{4}{5}(2 - 3x)$   
 A.  $\frac{2-3x}{20}$                       B.  $-\frac{3x+2}{20}$                       C.  $\frac{1-3x}{10}$                       D.  $-\frac{3x+1}{10}$
  
3. Solve the function  $\frac{x-1}{3} = 1 - \frac{x+3}{5}$   
 A.  $-\frac{1}{8}$                       B.  $1\frac{3}{8}$                       C.  $2\frac{1}{8}$                       D.  $3\frac{5}{8}$
  
4. A car driving at speed of 80km/h, a truck's speed is  $\frac{7}{8}$  of the car. Both car and truck leave at a same time traveling in opposite directions A and B, they meet 2 hours later. Find the distance between A and B.  
 A. 320km                      B. 300km                      C. 280km                      D. 260km
  
5. Given  $\xi = \{x: x \text{ is even number less than } 15\}$ ,  $P = \{x: x \text{ multiple of } 3\}$ ,  $Q = \{2, 4, 6\}$ . Find  $n[P \cup Q]$   
 A. 1                      B. 2                      C. 3                      D. 4
  
6. The ratio of boys to girls in a certain class is 3:2. If 4 more girls are added to the class, what is the new ratio of boys to girls?  
 A. 1:2                      B. 3:6                      C. 5:6                      D. 6:5
  
7. Which of the following geometry possess point symmetry and line symmetry?  
 I. Parallelogram                      II. Circle                      III. Pentagon                      IV. Prism  
 A. I, III                      B. II, IV                      C. III, IV                      D. II, III, IV
  
8. Which of the following statement is Incorrect?  
 A. There are 32 subsets in  $\{0, 1, 2, 3, 4\}$   
 B.  $6 \in \{x: x \text{ is even number}\}$   
 C.  $\emptyset \subset \{A, B, C\}$   
 D.  $\emptyset \in \{A, B, C\}$
  
9. Selling price of an item RM 6500, due to uncertain reason, it increases 20% and discount 20% later, what is the new price now?  
 A. RM 7800                      B. RM 6500                      C. RM 6240                      D. RM 5200
  
10. Given  $k = 3m + 6a$ , express the equation of m in terms of k and a  
 A.  $m = \frac{3k}{6a}$                       B.  $m = -\frac{6a+k}{3}$                       C.  $m = \frac{k+6a}{3}$                       D.  $m = \frac{k-6a}{3}$
  
11. If  $x = \frac{6a-y}{3-y}$ , express the equation in y

Math Revision (Form 3)

A.  $y = -\frac{3x-6a}{x-1}$

B.  $y = \frac{3x-6a}{x-1}$

C.  $y = -\frac{6a-3x}{1-x}$

D.  $y = \frac{6a-3x}{x-1}$

12. If  $a = \frac{\sqrt{5}}{\sqrt{5}+2}$ ,  $b = \frac{\sqrt{5}}{\sqrt{5}-2}$ , find  $ab$

A. 5

B.  $\frac{5}{3}$

C.  $\frac{1}{4}$

D.  $-\frac{1}{4}$

13. Simplify  $\frac{1}{3-\sqrt{6}} - \frac{1}{\sqrt{6}}$

A.  $6 + \sqrt{6}$

B.  $-6 - 3\sqrt{6}$

C.  $1 + \frac{\sqrt{6}}{6}$

D.  $-1 - \frac{\sqrt{6}}{6}$

14. Given straight line equation  $y = kx$  passes point (3,-2), the straight line also passes point

A. (-2,3)

B. (-3,2)

C. (2,3)

D. (3,2)

15. If a seller want to put 72 apples, 84 mangoes, and 96 oranges into x number of boxes, if the mixture of 3 different kind of fruits number are the same, find x.

A. 12

B. 8

C. 7

D. 6

16. Solve the equation  $(x + 3)^2 = 5(x + 3)$

A.  $x = -3$  or 2

B.  $x = -2$  or 3

C.  $x = 3$  or 2

D.  $x = -3$  or -2

17. In a right angle triangle, the difference between two axis is 4cm, the hypotenuse long 20cm, find the area of the triangle .

A.  $6\text{cm}^2$

B.  $40\text{cm}^2$

C.  $80\text{cm}^2$

D.  $96\text{cm}^2$

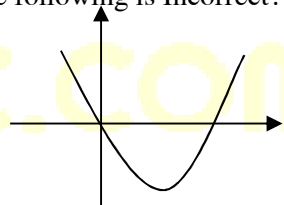
18. The quadratic equation  $y = ax^2 + bx + c$ . Which of the following is Incorrect?

A.  $a > 0$

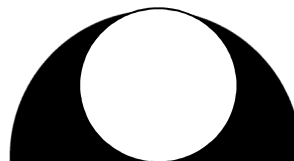
B.  $c < 0$

C. function has a minimum value

D. y decreases as x increases



19. Diagram shows a semi-circle with centre O. Diameter for the semi-circle is 16cm, calculate the area of the shaded region. (answer in  $\pi$ )



A.  $64\pi$

B.  $32\pi$

C.  $16\pi$

D.  $8\pi$

20. Building a circle garden in a long 8m width 5m rectangular pond, what is the maximum area possible?

A.  $19\frac{9}{14}$

B.  $50\frac{2}{7}$

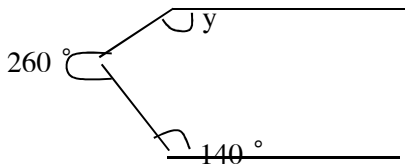
C.  $78\frac{4}{7}$

D.  $201\frac{1}{7}$

**Section B**

1. a) Simplify  $5(a - b) - 4b$  (3%)
- b) Simplify  $\frac{1}{1 + \frac{1}{1 + \frac{1}{2}}}$  (4%)
- c) Find the value of  $175_8 + 100_2$  (answer in binary) (3%)

2. a) Find value of  $y$  (4%)



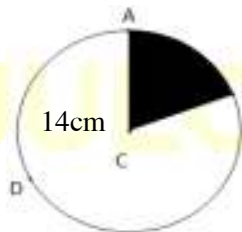
- b) Using scientific expression, express the value 0.00000058974 to 3 significant figures. (3%)
- c) Given  $\sqrt{2} = 1.414, \sqrt{3} = 1.732$ , find the value of  $\sqrt{27} - 2\sqrt{32}$  (answer in 2 decimals) (3%)

3. a) Calculate  $\sqrt{20} + \sqrt{48} - \sqrt{12} - \sqrt{5}$  (3%)

- b) Solve the equation  $\frac{x-4}{3x^2-9x-12} + \frac{1}{x+1} = 1 - \frac{x}{x-4}$  (7%)

4. a) Given the function  $v = \sqrt{u^2 + 2ax}$ 
  - i. express  $a$  in terms of  $v, u, x$  (3%)
  - ii. if  $v = 12, u = 2, x = 70$ , find value of  $a$  (2%)

- b) In the figure, area of sector is  $102\frac{2}{3} \text{ cm}^2$ , find the perimeter of shaded region. ( $\pi = \frac{22}{7}$ ) (5%)



5. a) Solve the equation  $x^2 - 5x + 6 = 0$  (2%)
- b) Solve the equation  $2x^2 + 5x - 2 = 0$  (4%)
- c) The circumference of a circle is 22cm, find the area of sector if angle is  $120^\circ$ . (4%)

6. a) The speed of a boat in still water is 6km/h. It takes 9km travel to upstream and 4 hours for the boat to travel downstream. Find the speed of the current. (6%)
- b) Sum of squares of 1st  $n$  consecutive natural even number is 164. Find the two numbers. (4%)

7. In a graph paper, construct a graph of  $y = x^2 - 1, -4 \leq x \leq 3$  where 2 cm represent 1 unit in  $x$ -axis and 1cm represent 1 unit in  $y$ - axis. (10%)  
According to the graph, find
  - i. Value of  $x$  when  $y = 3$
  - ii. Value of  $y$  if  $x = 1.5$