FIRST TERM EVALUATION 2014 - 2015

Mathematics

1. What is the sum of the angles of a polygon with 15 sides? **3**

2. Each angle of a polygon is 162°. How many sides does it have? **3**

3. Can you draw a regular polygon with each of its angles equal to 133°? Why? **3**

4. Simplify the followings

   (a) $\dfrac{10x^2 + 2x}{8x + 6}$ (b) $\dfrac{4x^2 - y^2}{2x - y}$ **3**

5. If $\dfrac{x}{y} = \dfrac{4}{5}$, What is $\dfrac{9x + 4y}{15x - 4y}$ **3**

6. Express $\dfrac{2}{11}$ into decimal form **3**

7. What is the length of a chord which is 8cm away from the centre of a circle of radius 10cm. **3**

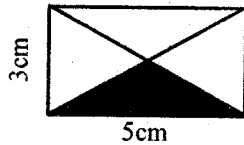8. Suppose you are given a circle. Give a method to find its centre? (Explanation or construction) **3**

9.
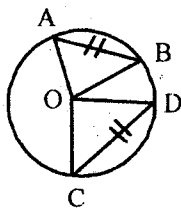
   In the figure O is the centre of the circle. AB and CD are two equal chords. Show that ∠AOB = ∠COD. **3**

10. Compute $\sqrt{2} + \sqrt{18} - \sqrt{8}$, Correct to 2 decimal places. (Take $\sqrt{2} = 1.41$) **3**

11. Arrange the following numbers in ascending order. **3**

    $3\sqrt{5}$, $2\sqrt{6}$, $5\sqrt{2}$, $4\sqrt{3}$

12.

3cm (vertical label) — rectangle figure with diagonals, 5cm base, shaded triangle

5cm

What is the area of the shaded triangle shown in the figure? **3**

13. The interior angles of a hexagon are $x°$, $(x - 10)°$, x, $(x+10)°$, $(x+20)°$, $(x+30)°$ and $(x+40)°$. Find the value of x? **4**

14. Draw a regular pentagon of side 5cm **4**

15. If $\dfrac{a}{b} = \dfrac{7}{8}$, then find $\dfrac{3a + 10b}{4a - 7b}$ **4**

16. Draw $\triangle ABC$ with AB = 7cm, AC = 6cm and $\angle A = 60°$ and draw its circumcircle? **4**

17. Using $\sqrt{3} = 1.732$, find $\sqrt{\dfrac{3}{4}} + \sqrt{\dfrac{3}{25}}$

Correct to 3 decimal places. **4**

18. Draw $\triangle ABC$ with AB = 5cm, BC = 5.5cm and CA = 6cm. Draw an isosceles triangle of the same area with one side AB itself. **4**

19. The exterior and interior angles of a regular polygon are in the ratio 2:7. How many sides does it have? Find sum of its interior angles? **5**

20. If $A = \dfrac{1}{2x-1}$ and $B = \dfrac{1}{2x+1}$ then find the followings (a) A + B (b) A-B (c) AB. **5**

21. If a chord 3cm away from the centre of the circle is 8cm long; what is the length of the chord at a distance of 4cm from its center? **5**

22. Simplify $\dfrac{1}{\sqrt{5} + \sqrt{3}}$ (Take $\sqrt{5} = 2.236$ $\sqrt{3} = 1.732$) **5**