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VIII/MATHEMATICS/2017-18 OLYMPIAD PRACTICE WORKSHEET

(Concept based)

1. Plane with six edges as its sides is called
(A) quadrilateral (B) hexagon (C) octagon (D) pentagon
2. Type of polygon in which its all angles and sides are equal is classified as
(A) regular pentagon (B) regular polygon (C) regular hexagon (D) regular octagon
3. Both u and v vary directly with each other. When u is 10, v is 15, which of the following is not a possible pair of corresponding values of u and v ?
(A) 2 and 3 (B) 8 and 12 (C) 15 and 20 (D) 25 and 37.5
4. What is the measure of the each angle of regular Hexagon?
(A) 110° (B) 130° (C) 140° (D) 120°
5. Assuming land to be uniformly fertile, the area of land and the yield on it vary
(A) directly with each other (C) neither directly nor inversely with each other
(B) inversely on each other (D) sometimes directly and sometimes inversely with each other
6. The sides of a pentagon are produced in order. Which of the following is the sum of its exterior angles?
(A) 540° (B) 180° (C) 720° (D) 360°

(Application based)

7. A truck needs 54 litres of diesel for covering a distance of 297 km. The diesel required by the truck to cover a distance of 550 km is
(A) 100 litres (B) 50 litres (C) 25.16 litres (D) 25 litres
8. Two regular polygons are such that the ratio between their no. of sides is 1:2 and the ratio of measures of their interior angle is 3:4. Find the number of sides of each polygon.
(A) 6 (B) 12 (C) 8 (D) 10
9. By travelling at a speed of 48 kilometres per hour, a car can finish a certain journey in 10 hours. To cover the same distance in 8 hours, the speed of the car should be
(A) 60 km/h (B) 80 km/h (C) 30 km/h (D) 40 km/h
10. Find the number of sides of a polygon whose each exterior angle is 45°
(A) 4 (B) 8 (C) 16 (D) 32
11. 100 persons had food provision for 24 days. If 20 persons left the place, the provision will last for
(A) 120 days (B) 30 days (C) $96/5$ days (D) 40 days

(HOTS)

12. If the sum of the measures of the interior angles of a polygon equals the sum of the measures of the exterior angles, how many sides does the polygon have?
(A) 4 (B) 8 (C) 16 (D) 32
13. If two quantities X and Y vary directly with each other, then
(A) X + Y remains constant (B) X – Y remains constant
(C) X x Y remains constant (D) X/Y remains constant
14. Each side of a regular pentagon measures 8 cm and the radius of its circumscribed circle is 7 cm. Find the area of the pentagon.
(A) 114 cm^2 (B) 114.8 cm^2 (C) 104.8 cm^2 (D) 104 cm^2

(Value based)

15. If the distance travelled by a rickshaw in one hour is 10 km, then the distance travelled by the same rickshaw with the same speed in one minute is
(A) $250/9 \text{ m}$ (B) $500/9 \text{ m}$ (C) $500/3 \text{ m}$ (D) 1000 m
16. Find the area of regular pentagon whose each side is 10 cm long and radius of whose circumscribed circle is 8.5 cm.
(A) 151.75 cm^2 (B) 171.75 cm^2 (C) 161.75 cm^2 (D) 181.75 cm^2

(Logical Reasoning)

17. Pointing to a lady, a man said “The son of her only brother is the brother of my wife” how is the lady related to that man?
(A) Mother’s Sister (B) Sister of Father-in-law (C) Maternal Aunt (D) Grandmother
18. In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?
(A) 318826 (B) 318286 (C) 618826 (D) 328816
19. ‘Match’ is related to ‘Victory’ in the same way as ‘Examination’ is related to:
(A) Write (B) Appear (C) Success (D) Attempt
20. Ravi travelled 4 km straight towards South. He turned left and travelled 6 km straight, then turned right and travelled 4 km straight. How far is he from the starting point?
(A) 8 km (B) 10 km (C) 12 km (D) 18 km