1. A , B and C can individually complete a piece of work in 24 days, 15 days and 12 days respectively. B and C started the work and worked for 3 days and left. The number of days required by A alone to complete the remaining work is?

a) 11 b) $15\frac{1}{2}$ c) 18 d) $13\frac{1}{5}$

2. If A lies in the first quadrant and 6 tan A = 5, then the value of $\frac{8\,SinA-4\,Cos\,A}{CosA+2\,Sin\,A}$ is

a) 1 b) 4 c) -2 d) 16

3. If x–y = 4 and xy = 45, then the value of $x^3 - y^3 is: -$

a) 604 b) 822 c) 151 d) 82

4. The radius of a circular garden is 42 m. The distance (in m) covered by running 8 rounds around, it is:- ($\pi = \frac{22}{7}$)

a) 1124 b) 2112 c) 3248 d) 4262

5. The given table shows the number (in thousands) of cars of five difference models, A, B, C, D and E produced during years 2012-2017. Study the table and answer the questions that follow.

	A	B	C	D	E	TOTAL
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

In the years 2015, which type of car constitutes exactly 20% of the total number of cars produced that year?

a) E b) A c) D d) B

6. A person sells an article at 10% below its cost price. He sold it for 332 rupees more, he would have made a profit of 20%. What is the original selling price (in rupees) of the article?

a) 1028 b) 1328 c) 996 d) 896

7. If '+' means '-', '-' means '+', '×' means '÷', '÷' means '×', then the value of $\frac{42-12\ X\ 3+8\div 2+15}{8X2-4+9\div 3}$ is?

a) $\frac{15}{19}$ b)- $\frac{5}{3}$ c) - $\frac{15}{19}$ d) - $\frac{5}{3}$

8. The given table shows the number (in thousands) of cars of five difference models, A, B, C, D and E produced during years 2012-2017. Study the table and answer the questions that follow.

	A	B	C	D	E	TOTAL
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

If 2013 and 2014 are put together, which type of cars constitute exactly 25% of the total number of cars produced in those 2 years?

a) B b) E c) C d) D

9. A, B and C are three points on a circle such that angles subtended by the chord AB and AC at the center O are 110° And 130°, respectively. Then, the value of ∠BAC is:-

a) 65° b) 60° c) 70° d) 75°

10. A train crosses a pole in 12 sec, and a bridge of length 170m in 36 sec. Then, the speed of the train is:-

a) 30.75 km/h b) 10.8 km/h c) 25.5 km/h d) 32.45 km/h

11. The ratio of the number of boys to the number of girls in a school of 640 students, is 5:3, if 30 more girls are admitted in the school, then how many more boys should be admitted so that the ratio of boys of that of the girls, become 14:9?

a) 15 b) 30 c) 20 d) 25

12. If $x^{2a} = y^{2b} = z^{2c} \neq 0$ and $x^2 = yz$, then the value of $\frac{ab+bc+ca}{bc}$ is :-

a) 3ac b) 3 c) 3ab d) 3bc

13. If the length of a rectangle is increased by 40%, and the breadth is decreased by 20%, then the area of the rectangle increases by x%. Then the value of x is:-

a) 16 b) 8 c) 20 d) 12

14. Out of 6 numbers, the sum of the first 5 number is 7 times the 6^{th} number. If their average is 136, then the 6^{th} number is?

a) 102 b) 84 c) 96 d) 116

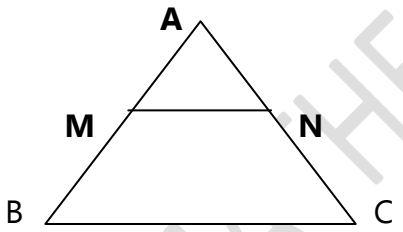
15. If the number 1005x4 is completely divisible by 8, then the smallest integer in place of x will be:-

a) 1 b) 0 c) 4 d) 2

16. If A+B = 45°, then the value of 2(1+ tanA)(1+ tan B) is:-

a) 4 b) 1 c) 0 d) 2

17. In ΔABC, MN∥BC, the area of quadrilateral MBCN = 130 sq.cm. If AN: NC = 4:5, then the area of ΔMAN is?



a) 45 sq.cm. b) 65 sq.cm. c) 32 sq.cm. d) 40 sq.cm

18. A shopkeeper marks the price of the article in such a way that after allowing 28% discount, he wants a gain of 12%. If the marked price is 224rupees, then the cost price of the article is:-

a) 144 b) 168 c) 120 d) 19

19. If the radius of 2 cylinder are in the ratio 3:4 and their heights are in the ratio 4:9, then the ratio of their volumes is:-

a) 1:2 b) 2:1 c) 4:1 d) 1:4

20. The given table shows the number (in thousands) of cars of five difference models, A, B, C, D and E produced during years 2012-2017. Study the table and answer the questions that follow.

	A	B	C	D	E	TOTAL
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

The percentage increases in the total cars in 2016 over 2012, is:-

a) 33.33% b) 45% c) 50% d) 62.33%

21. If x, y, z, are three integers such that x+y=8, y+z=13 and z+x=17, then the value of $\frac{x^2}{y^z}$ is :-

a) $\frac{7}{5}$ b) 1 c) 0 d) $\frac{18}{11}$

22. The area of ΔABC is 44 sq.cm. If D is the midpoint of BC and E is the midpoint of AB, then the area (n sq.cm.) of triangle BDE is?

a) 11 b) 5.5 c) 22 d) 44

23. 4300 rupees become 4644 in 2 years at simple interest and the principle amount that will become 10,104 rupees in 5 years at the same rate of interest.

a) 8,420 b) 9,260 c) 5,710 d) 7,200

24. If x = 4 cosA + 5sinA and y = 4 sinA – 5cos A, then the value of $x^2 + y^2$ *is*: –

a) 25 b) 16 c) 0 d) 41

25. The given table shows the number (in thousands) of cars of five difference models, A, B, C, D and E produced during years 2012-2017. Study the table and answer the questions that follow.

	A	B	C	D	E	TOTAL
2012	18	26	22	23	31	120
2013	22	18	32	40	18	130
2014	32	43	26	35	34	170
2015	18	22	26	14	20	100
2016	36	12	44	38	50	180
2017	12	48	40	22	28	150

The percentage decreases in the production of which type of car in 2017, with reference to 2016, was the maximum?

a) C **b) E** **c) A** **d) D**