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CREATIVEEDGE

QUANTITATIVE APTITUDE

1. If the length of rectangle is decreased by 14.28% and breadth is increased by 20%. What will be the effect on its area (approx.)?
(a) 40% (b) 42.5% (c) 37.14% (d) 28.56%
2. If the area of square is 196 sq.cm and the area of rectangle is equal then find the breadth if length is 49 cm?
(a) 5 (b) 8 (c) 16 (d) 4
3. If the length of the rectangle is $x+1$ cm and the breadth is $x+2$ cm. If the perimeter is 50cm, then find the area of rectangle is?
(a) 150 (b) 156 (c) 128 (d) 144
4. If the height of equilateral is $20\sqrt{3}$ cm. Find the area of the triangle?
(a) $400\sqrt{3}$ (b) $250\sqrt{3}$ (c) $200\sqrt{3}$ (d) $300\sqrt{3}$
5. The perimeter of a triangle is 54 m and its sides are in the ratio of 5 : 6 : 7. The area of the triangle is
(a) 18 m^2 (b) $54\sqrt{6}\text{ m}^2$ (c) $27\sqrt{2}\text{ m}^2$ (d) 25 m^2
6. Girish bought a cycle for Rs. 800 and sold it for Rs. 900. Find the percentage of profit he made.
(a) 25% (b) 50% (c) $33\frac{1}{3}\%$ (d) None of these
7. What is the number of positive integers that can divide 200 without remainder?
(a) 10 (b) 6 (c) 12 (d) 5
8. Find the average of the numbers 5, 3, 8, 7, 6, 1. What is the new average if each number is increased by 3?
(a) 5 and 8 (b) 7 and 10 (c) 6 and 9 (d) 5.5 and 8.5
9. A alone can do a piece of work in 15 days and B alone can do the same piece of work in 10 days. How long will they take to do the work together?
(a) 5 days (b) 6 days (c) 12.5 days (d) 25 days
10. One fill pipe A is 3 times faster than second fill pipe B and takes 32 mins less than the fill pipe B. When will the cistern be full if both pipes are opened together?
(a) 12 mins (b) 24 mins (c) 30 mins (d) Data inadequate
11. If Shivan walks at the rate of 19 km/h. How much time will he take to cover 665 m?
(a) $1\frac{1}{2}$ min (b) 2 min (c) 3 min (d) $2\frac{1}{10}$ min
12. A boat takes total 9 hour when going 68 km downstream and 45 km upstream. That boat takes 2 hours more when going 51 km downstream and 72 km upstream. What is the speed of boat in still water?
(a) 4 (b) 13 (c) 12 (d) 6
13. **Direction:** Select the correct alternative from the given choices.
 $(59)^2 - (55)^2 = (?)^2 + 200$
(a) 12 (b) 14 (c) 16 (d) 18
14. $39856 \times 139 = ?$
(a) 5899964 (b) 5539984 (c) 5469981 (d) 5529984
15. If $4x + 5y = 120$, where x and y are natural numbers, what can you say about y ?
(a) y is odd (b) y is even (c) y is a multiple of 3 (d) None of these

16. An AC consumes 8 units of electricity in 30 minutes and a bulb consumes 18 units of electricity in 6 hours. How much total unit of electricity will both AC and bulb consume in 8 days if they run 10 hours a day?
(a) 1280 unit (b) 1528 unit (c) 1520 unit (d) 1560 unit
17. Rahul starts business with Rs 4500 and after 3 months, Bhanu joins with Rahul as his partner. After a year, the profit is divided in the ratio 4:5. What is Bhanu's contribution in the capital?
(a) Rs. 4000 (b) Rs. 5000 (c) Rs. 6500 (d) Rs. 7500
18. A, B and C hired a field for Rs 930 for the whole year, A puts in 40 buffalos for 6 month, B put in 60 Buffalos for 3 months and C puts 30 Buffalos and 40 cows for 4 months. How much C pay, if one Buffalo eats as two cows?
(a) 400 Rs (b) 350 Rs (c) 300 Rs (d) 250 Rs
19. A is as much younger to B as he is older to C. If the sum of the ages of B and C is 48 years, what is the present age of A?
(a) 24 years (b) 18 years (c) 28 years (d) 20 years
20. Raju is three years younger to Sonu. Bunty is two years older than Raju. What is Sonu's age in relation to Bunty?
(a) 2 year older (b) 1 years older (c) 3 years older (d) None of the above

ANSWER KEY AND EXPLANATIONS

1. (c) All percent value changed into fraction to make the calculation easy.
 $14.28\% = \frac{1}{7}$
 $20\% = \frac{1}{5}$
 According to question
 Initial ratio of length and breadth is 7 : 5.
 And, final ratio of length and breadth is 8 : 6
 Area of rectangle = Length $\times$ breadth
 The ratio of areas is 35 : 48
 $\% \text{ change} = \frac{13}{35} \times 100$
 $= 37.14\%$
 Hence, the correct answer is option C
2. (d) Area of rectangle = Length $\times$ breadth
 Area of square = area of rectangle
 $196 \text{ sq.cm} = 49 \times b$
 $b = 4 \text{ cm}$
 Hence, the correct answer is option D.
3. (b) Perimeter of rectangle = $2(l + b)$
 $50 \text{ cm} = 4x + 6$
 $x = 11$
 $L = 12$ and $B = 13 \text{ cm}$
Area of rectangle = Length $\times$ breadth
 $= 12 \times 13$
 $= 156 \text{ Sq.cm}$
 Hence, the correct answer is option B.
4. (a) Height of equilateral triangle = $\frac{\sqrt{3}}{2} \times a$ (where "a" is a side of triangle)
 Area of equilateral triangle = $\frac{\sqrt{3}}{4} \times a^2$
 According to question
 $20\sqrt{3} = \frac{\sqrt{3}}{2} \times a$
 $a = 40 \text{ cm}$
 Now, Area of the triangle
 $= 400 \sqrt{3} \text{ Sq.cm}$
 Hence, the correct answer is option A.
5. (b) Let the sides of a triangle be 5x, 6x, 7x respectively.
 $\therefore 5x + 6x + 7x = 54 \Rightarrow 18x = 54 \Rightarrow x = 3$
 $\therefore$ The sides of the triangle = 5x, 6x, 7x = 15m, 18m, 21m.
 $\therefore$ Semi perimeter of the triangle (s) = $\frac{54}{2} = 27 \text{ m}$.
 $\therefore$ Area of the triangle = $\sqrt{s(s-a)(s-b)(s-c)}$
 $= \sqrt{27(27-15)(27-18)(27-21)}$
 $= \sqrt{27 \times 12 \times 9 \times 6}$
 $= \sqrt{3.3.3.3.2.2.3.3.2} = 54 \sqrt{6} \text{ m}^2$
6. (b) Girish's profit = Rs. 300
 Girish's profit percentage = $\frac{300}{600}(100)\% = 50\%$
7. (c) If $N = a^x b^y c^z \dots$ where a, b, c are prime factors of N and x, y, z are positive integers, then
 The number of factors of $N = (1+x)(1+y)(1+z) \dots$
 $200 = 2^3 \times 5^2$
8. (a) Average = $\frac{\text{Sum of all items}}{\text{Number of items}} = \frac{5+3+8+7+6+1}{6} = \frac{30}{6} = 5$
 If 3 is added to each number, the new mean = original mean + 3 = 5 + 3 = 8.
9. (b) A's one day work = $\frac{1}{15}$ and B's one day work = $\frac{1}{10}$
 $\therefore$ (A and B)'s one day work = $\frac{1}{15} + \frac{1}{10} = \frac{2+3}{30} = \frac{1}{6}$
 $\therefore$ A and B together will take 6 days to do the work.
10. (a) Let pipe A takes x min to fill the cistern.
 Then, pipe B takes 3x min to fill the cistern.
 $3x - x = 32$
 $x = 16 \text{ min}$ and $3x = 48 \text{ min}$
 So, both pipes can fill the cistern in $\left(\frac{48 \times 16}{48+16}\right) \text{ min} = 12 \text{ min}$
11. (d) Speed = $19 \times \frac{5}{18} \text{ m/s}$
 Time = $\frac{665}{19 \times 5} \times 18 = 126 \text{ sec} / 2\frac{1}{10} \text{ min}$
12. (b) Let the speed of boat be x km/hr. and speed of stream be y km/hr.
 A.T.Q.,
 $\frac{68}{x+y} + \frac{45}{x-y} = 9 \dots (i)$
 $\frac{51}{x+y} + \frac{72}{x-y} = 11 \dots (ii)$
 On solving equation (i) & (ii), we get :
 $x = 13 \text{ km/hr.}$ & $y = 4 \text{ km/hr.}$
13. (c) $3481 - 3025 = (?)^2 + 200$
 $\Rightarrow (?)^2 = 3481 - 3025 - 200 = 256$
 $\therefore ? = \sqrt{256} = 16$
14. (b) Round off the numbers to 40000 and 140. So product = 5600000.
 Correct answer is less than 5600000. So [1] is ruled out.
 [3] is ruled out as last digit has to end in 4.
 Neither 39856, nor 139 is divisible by 3.
 [4] is divisible by 3, and hence eliminated.
15. (b) Now, 120 is even. We know that even + even = even or odd + odd = even
 Hence, on the Left Hand Side (LHS), either both terms are even or both terms are odd.
 But we know that 4x is even. So 5y has to be even. As 5 is odd, y has to be even.
16. (c) total consumption of electricity
 $= (10 \times 16 \times 8 + 3 \times 10 \times 8)$
 $= (1280 + 240) \text{ units}$
 $= 1520 \text{ units}$
17. (d) Let Bhanu's contribution is x
 $\text{ATQ} \rightarrow \frac{4500 \times 12}{9 \times x} = \frac{4}{5}$
 $\rightarrow 36x = 4500 \times 12 \times 5$
 $x = 7500 \text{ Rs}$
18. (c) A's share : B's share : C's share
 $(40 \times 6) : (60 \times 3) : \left(30 + \frac{40}{2}\right) \times 4$
 $240 : 180 : 200$
 $12 : 9 : 10$
 Now amount paid by C
 $= \frac{10}{31} \times 930$
 $= 10 \times 30 = 300 \text{ Rs}$
19. (a) Let ages of A, B, and C are x, y and z years respectively.
 $y - x = x - z$
 $2x = y + z \dots (i)$
 From question $y + z = 48 \text{ years}$
 $x = y + z / 2 = 48 / 2 = 24 \text{ years}$
 Age of A = 24 years
20. (b) Let the age of sonu = x years
 Raju : Sonu : Bunty
 $(x-3) : x : (x-1)$
 Sonu is 1 years older than Bunty.

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