How many kilometres will he walk in five weeks?

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MODEL QUESTIONS

1. What will come in place of both the question marks (?) in the following question?
$$\frac{(?)^{2.3}}{8} = \frac{2}{(?)^{1.7}}$$
a) 8   b) 1
c) 4   d) 16
e) 2

2. What would be the simple interest accrued in 4 years on a principal of `16,500 at the rate of 16 p.c.p.a.?
a) Rs. 11,560   b) Rs. 10,250
c) Rs. 12,500   d) Rs. 9,980
e) None of these

3. A truck covers a distance of 360 km in 8 hours. A car covers the same distance in 6 hours. What is the respective ratio between the speed of the truck and the car?
a) 3 : 5   b) 3 : 4
c) 1 : 2   d) 4 : 5
e) None of these

4. In order to pass in an exam a student is required to get 975 marks out of the aggregate marks. Priya got 870 marks and was declared failed by 7 per cent.

What are the maximum aggregate marks a student can get in the examination?
a) 1500   b) 1000
c) 1200
d) Cannot be determined
e) None of these

5. The average of four consecutive numbers A, B, C and D respectively is 56.5. What is the product of A and C?
a) 3363   b) 3306
c) 3192   d) 3080
e) None of these

6. Parag walks 226 metres everyday. How many kilometres will he walk in five weeks?
a) 6.57   b) 7.91
c) 8.23   d) 9. 41
e) None of these

7. On children's day sweets were to be equally distributed amongst 200 children. But on that particular day 40 children remained absent; hence each child got 2 sweets extra. How many sweets were distributed?
a) 3000   b) 1500
c) 2000   d) 1600
e) Cannot be determined

8. The perimeter of a square is one-fourth the perimeter of a rectangle. If the perimeter of the square is 44 cm and the length of the rectangle is 51 cm, what is the difference between the
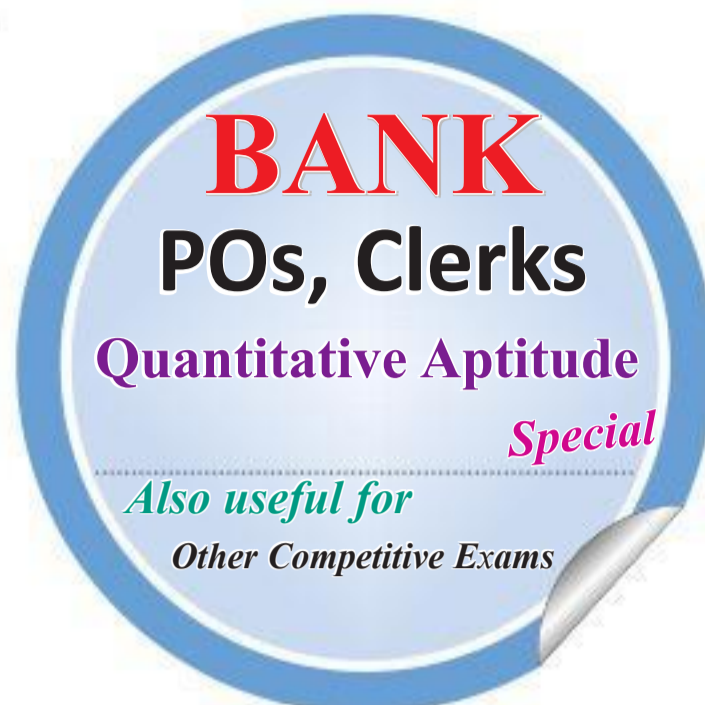
breadth of the rectangle and the side of the square?
a) 30 cm   b) 18 cm
c) 26 cm   d) 32 cm
e) None of these

9. What is the difference between the compound interest and simple interest accrued on an amount of Rs. 12,000 at the end of three years at the rate of 12%?
a) Rs. 539.136
b) Rs. 602.242
c) Rs. 495.248
d) Rs. 488.322
e) None of these

10. The area of a rectangle is equal to the area of a circle with circumference equal to 220 metres. What is the length of the rectangle if its breadth is 50 metres?
a) 56 metres   b) 83 metres
c) 77 metres   d) 69 metres

e) None of these

11. Prashant incurred a loss of 75 per cent on selling an article for Rs. 6,800. What was the cost price of the article?
a) Rs. 27,700   b) Rs. 25,600
c) Rs. 21,250   d) Rs. 29,000
e) None of these

Directions (Q.No. 12-16) : In the following bar diagram, the number of mobile phones and laptops (in thousands) sold by 6 different companies in a certain month has been given. Study the bar diagram carefully to answer the questions.

Number of mobile phones and laptops (in thousands) sold by 6 different companies in a month.
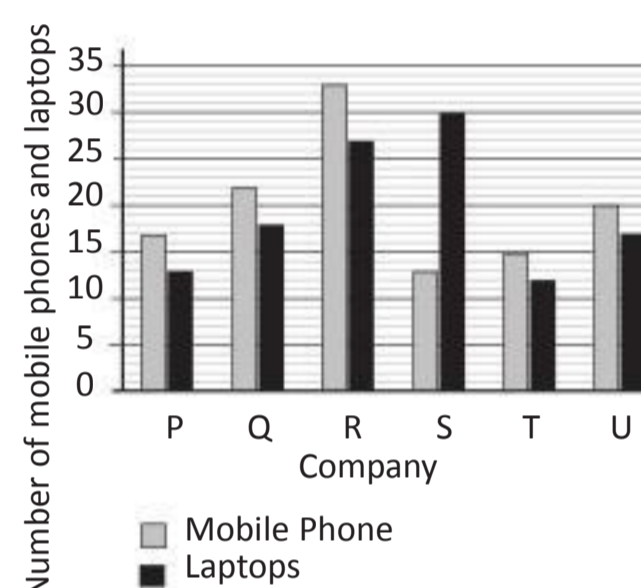
12. What is the average number of mobile phones sold by all companies taken together in a month ?

13. By what percent the number of mobile phones sold by company U is more than that of company T?
a) $33\frac{1}{3}\%$ b) 22%
c) 20%   d) $23\frac{2}{3}\%$
e) None of these

14. What is the average of the number of laptops sold by companies P, R and T ?
a) 17 thousands
b) 17.33 thousands
c) 18 thousands
d) 16 thousands
e) None of these

15. What is the respective ratio between the number of mobile phones sold by company T and that of laptops sold by company Q ?
a) 3 : 5   b) 6 : 5
c) 5 : 3   d) 5 : 6
e) None of these

16. What is the respective ratio of the numbers of laptops sold by company Q and company R?
a) 2 : 5   b) 4 : 3
c) 3 : 4   d) 3 : 2
e) 2 : 3

Solutions

1. e;
$\Rightarrow (?)^{2.3+1.7} = 16$
$\Rightarrow (?)^4 = 16 = (2)^4$
$\therefore ? = 2$

2. e; Simple interest
$= \frac{Principle \times time \times rate}{100}$
$= \frac{16500 \times 4 \times 16}{100} = $ Rs. 10560

3. b; Speed of truck
$\frac{distance}{time} = \frac{360}{8} = 45$ km/hr
Speed of car
$\frac{distance}{time} = \frac{360}{6} = 60$ km / hr
$\therefore$ Ratio = 45 : 60 = 3 : 4

4. a;
Minimum marks to pass = 975
Let Total marks = x
Priya got 870 marks and failed by 7 percent
$\therefore 870 + \frac{7}{100}x = 975$
$\Rightarrow \frac{7}{100}x = 105$
$\Rightarrow x = 105 \times \frac{100}{7}$
$x = 1500$

5. e;   Let four consecutive numbers are
A = (x), B = (x + 1), C = (x + 2) and D = (x + 3)
According to question, Average

$= \frac{(x)+(x+1)+(x+2)+(x+3)}{4}$
$\Rightarrow 56.5 = \frac{4x+6}{4}$
$\Rightarrow 226 = 4x + 6$
$\Rightarrow 4x = 226 - 6 = 220$
$\therefore x = \frac{220}{4} = 55$
$\therefore$ Product of A and C
= (x) × (x + 2) = (55) × (55 +2)
= 55 × 57 = 3135

6. b;
Required distance
= 226 ×(5 × 7)
= 226 × 35
= 7910 m
= 7.91 km

7. d;
Let x sweets is distributed to each children
According to question (200 – 40) × (x + 2) = 200 × x
$\Rightarrow$ (160) × (x + 2) = 200x
$\Rightarrow$ 160x + 320 = 200x
$\Rightarrow$ 200x – 160x = 320
$\Rightarrow$ 40x = 320
$\therefore x = \frac{320}{40} = 8$
$\therefore$ Total no. of sweets
= 200 × x = 200 × 8 = 1600

8. c;
One side of square =
$\frac{circumference}{4} = \frac{44}{4} = 11$ cm
Circumference of rectangle

= 4× perimeter of square
= 4 × 44 = 176 cm
Width of rectangle =
$\frac{circumference\ of\ rec\tan gle}{2} - length$
$= \frac{176}{2} - 51 = 88 - 51 = 37cm$
$\therefore$ Required difference
= width – side = 37 – 11
= 26 cm.

9. a;
$S.I. = \frac{Principle \times time \times rate}{100}$
$= \frac{1200 \times 3 \times 12}{100} = $ Rs. 4320
$C.I. = P\left[\left(1 + \frac{rate}{100}\right)^{time} - 1\right]$
$= 12000\left[\left(1 + \frac{12}{100}\right)^3 - 1\right]$
$= 12000\left[\left(\frac{28}{25}\right)^3 - 1\right]$
$= 12000\left[\frac{21952}{15625} - 1\right]$
$= 12000 \times \frac{6327}{15625}$
= Rs. 4859.136
$\therefore$ Required difference
= 4859.136 – 4320
=Rs. 539.136

10. c;
Radius of circle (r) =

$\frac{circumference}{2\pi} = \frac{220 \times 7}{2 \times 22} = 35m$
Area of circle = πr^2
$= \frac{22}{7} \times (35)^2 = \frac{22}{7} \times 35 \times 35$
= 3850 m^2 = area of rectangle
$\therefore$ Length of rectangle =
$\frac{area\ of\ rec\tan gle}{width} = \frac{3850}{50} = 77m$

11. e;
CP of article $= 6800 \times \frac{100}{100-75}$
$= 6800 \times \frac{100}{25} = $ Rs.27,200

12. b;
Required average =

$= \frac{17+22+33+13+15+20}{6} = \frac{120}{6}$
=20 thousand

13. a;
Required percent =
$\frac{20-15}{15} \times 100 = \frac{100}{3} = 33\frac{1}{3}\%$

14. b;
Required average =
$= \frac{13+27+12}{3} = \frac{52}{3} = 17\frac{1}{3}$ thousands

15. d;   Required ratio
= 15 : 18 = 5 : 6

16. e;
Required ratio
= 18 : 27 = 2 : 3