Direct and Inverse Proportions

<1M>

(Q.1) If 35 men can reap a field in 8 days, then 20 men can reap the same field (in days)
(a) 16.
(b) 15.
(c) 14.
(d) 12.

(Q.2) If 36 men can do a piece of work in 25 days, then the number of days taken by 15 men will be

(a) 50.
(b) 56.
(c) 60.
(d) 72.

(Q.3) 18 men can reap a field in 35 days. The number of men required for reaping the same field in 15 days will be
(a) 40.
(b) 42.
(c) 45.
(d) 46.

(Q.4) If the cost of 1 Kg sugar is Rs. 18, then the cost of 3 kg sugar (in Rs.) will be
(a) 60
(b) 54
(c) 50
(d) 36

(Q.5) If x and y are two quantities $\frac{x}{y}$ = k (k is a positive constant) then x and y are said to vary
(a) inversely.
(b) directly.
(c) equally.
(d) unequally.

(Q.6) If x and y are two quantities and x y = k (a constant) then x and y are said to vary
(a) directly.
(b) inversely.
(c) unequally.
(d) equally.

(Q.7) When two quantities 'x' and 'y' are in direct proportion, they are also written as
(a) x/ y.
(b) xy.
(c) x < y.
(d) x > y.

(Q.8) When two quantities are in inverse proportion they are also written as
(a) x✗ y.
(b) x = y.
(c) $x \times \frac{1}{y}$.
(d) x > y .

(Q.9) In the following table x and y are in direct variation.

x	50	60	70	80	90
y	5	6	7	?	9

The value of y when x is 80 is

(a) 8.

(b) 4.

(c) 2.

(d) 0.

(Q.10) When the speed is uniform, the distance traveled is directly proportional to

(a) time.

(b) speed.

(c) velocity.

(d) acceleration.

(Q.11) If the two quantities 'x' and 'y' vary directly proportionthen the value of y when X is17 is

X	20	17
Y	40	?

(a) 34.

(b) 17.

(c) 1.

(d) 0.

(Q.12) Changes in weight and height among individuals are in

(a) direct proportion.

(b) indirect proportion.

(c) equal proportion.

(d) unknown proportion.

(Q.13) A machine in a soft drink factory fills 840 bottles in 6 hours. In one hour it fills 140 bottles. This proportion is

(a) inverse.

(b) direct.

(c) equal.

(d) unequal.

(Q.14) Two quantities may change in such a manner that if one quantity increases, the other quantity decreases and vice versa. This proportion is called

(a) inverse proportion.

(b) direct proportion.

(c) both inverse and direct proportion.

(d) equal proportion.

(Q.15) Cost of a book and number of books purchased in a fixed amount are in

(a) inverse proportion.

(b) direct proportion.

(c) both inverse and direct proportion.

(d) equal proportion.

(Q.16) If 12 workers can build a wall in 48 hours, the number of workersrequired to do the same work in 24 hours is

(a) 48.

(b) 36.

(c) 24.

(d) 12.

(Q.17) 6 pipes fill a water tank in 80 minutes. The time taken to fill the water tank in minutes by 3 pipes of the same type is (In min)

(a) 160.

(b) 120.

(c) 60.

(d) 40.

(Q.18) A car takes 2 hours to reach a destination by traveling at the speed of 80 km/hr. The time taken by car when the car travels at a speed of 60 km/hr is

(a) 2 hours12 minutes.

(b) 2 hours20 minutes.

(c) 2 hours 40 minutes.

(d) 3 hours.

(Q.19) A school wants to spend Rs. 4000 on mathematics textbooks eachcosting Rs. 40. If the cost of the book goes up by Rs.10 then the numberof books that can be bought is

(a) 40.

(b) 80.

(c) 100.

(d) 150.

(Q.20) If 10 workers can build a wall in 48 hours, the number of workersrequired to do the same work in 30 hours will be

(a) 20.

(b) 16.

(c) 15.

(d) 12.

(Q.21) Ram wants to make to make a wheel using spokes. He wants to fixspokes in such a way that the angle between any pair of consecutivespokes are equal. If the number of spokes is 6 then the angle is 60^0. Ifthe angle between them is 36^0 then the number of spokes are

(a) 12.

(b) 10.

(c) 8.

(d) 6.

(Q.22) Six persons can fit a new window in 4 days. The number of personsneeded to fit the window in one day will be

(a) 12

(b) 20

(c) 24

(d) 48

(Q.23) A factory needs 24 machines to produce a given number of articles in 65 days. The number of machines required to produce the same number of articles in 52 days is

(a) 12.

(b) 30.

(c) 36.

(d) 45.

(Q.24) If a box of sweets is divided among 20 children, they will get 5 sweets each. If the number of children is increased by 5, then the number of sweets each child will get would be

(a) 3.

(b) 4.

(c) 5.

(d) 6.

(Q.25) A car takes 2 hrs to reach a destination by traveling at the speed of 80 km/hr. If the car travels at the speed of 40 km/hr, it will take (in hours)

(a) 3.

(b) 4.

(c) 5.

(d) 6.

(Q.26) 3 electricians do the job of rewiring a house in 4 days. The number of days taken by 4 electricians do the same rewiring will be

(a) 2.

(b) 3.

(c) 4.

(d) 6.

(Q.27) There are 100 students in a hostel. Food provision for them is for 20 days. If 25 more students join the hostel, then the food provisionfor them is

(a) 20.

(b) 16.

(c) 15.

(d) 12.

(Q.28) A worker is paid Rs. 210 for 6 days work. If his total income of the month is Rs. 875, he must have worked for (in days)

(a) 20.

(b) 23.

(c) 25.

(d) 28.

(Q.29) In 10 days, the earth picks up 2.6×10^8 pounds of dust from the atmosphere. In 45 days, it will pick (in pounds)

(a) 1.17×10^8.

(b) 11.7×10^8.

(c) 117×10^8.

(d) 11.7×10^9.

(Q.30) 52 men can do a piece of work in 35 days, then 28 men will do the same work (in days)

(a) 58.

(b) 60.

(c) 62.

(d) 65.

(Q.31) A car can finish a journey in 10 hrs at the speed of 48 km/hr. To cover the same distance in 8 hours, its speed should be increased by (In km/hr)

(a) 12.

(b) 50.

(c) 60.

(d) 72.

(Q.32) 1200 men can finish a stock of food in 35 days. For the same stock to last for 25 days, the number of men that need to join them will be

(a) 420.

(b) 450.

(c) 460.

(d) 480.

(Q.33) A person has money to buy 25 cycles worth Rs. 500 each. If each cycle is costs Rs. 125 more, then the number of cycles that he will be able to buy will be

(a) 15.

(b) 16.

(c) 18.

(d) 20.

(Q.34) Shikar has enough money to buy 75 machines worth Rs. 200 each. If he gets a discount of Rs. 50 on each machine, the number of machines he can buy will be

(a) 80.

(b) 95.

(c) 100.

(d) 102.

(Q.35) The amount of extension in an elastic spring varies directly as the weight having on it. If a weight of 150 gm produces an extension of 2.9 cm, then an extension of 17.4 cm will be produced by a weight of (In grams)
(a) 870.
(b) 900.
(c) 905.
(d) 910.

(Q.36) If 18 dolls cost Rs. 630, then the number of dolls that can be bought for Rs. 315 is
(a) 8.
(b) 9.
(c) 12.
(d) 36.

(Q.37) A garrison of 500 men had provisions for 24 days. However, a reinforcement of 300 men arrived. The food will now last for (in days)
(a) 15.
(b) 16.
(c) 17½.
(d) 18.

(Q.38) If 14 kg of pulses cost Rs. 441, then the cost of 22 kg of pulses will be (In Rs.)
(a) 627.
(b) 649.
(c) 671.
(d) 693.

(Q.39) What proportion is the number of workers on a job and the time to complete the job is
(a) direct.
(b) inverse.
(c) equal.
(d) unequal.
  (Q.40) If Rs. 166.50 is the cost of 9 kg of rice, how much rice can be purchases for Rs. 259?

(Q.41) If a car covers 80 km in 5 liters of petrol, how much distance will it cover in 13 liter of petrol?

 (Q.42) If 32 men can reap a field in 15 days. In how many days can 20 men reap the same field?
 (Q.43) If 36 men can do a work in 25 days, in how many days will 15 men do the work?
  (Q.44) The cost of 5 meters of cloth is Rs. 350. Find the cost of 7 meters of Cloth?
  (Q.45) A 14 meters stick casts a shadow of 10 meters. Find the height of a stick which casts a shadow of 15 meters under similar conditions.
  (Q.46) A Train moving in uniform speed of 80 km/hr, how for will it travel in 35 min.
  (Q.47) If 4 kg of pulse cost Rs. 448. What is the cost of 12 kg of pulse?
  (Q.48) A tank travels 15 km in 25 minutes. If the speed remains the same, how far can it travel in 1 hour and 5 min?
  (Q.49) 18 workers can build a wall in 36 hours, how many workers will be required to do the same work in 13 hours.
  <2M>
(Q.50) There are 100 students in a hostel food provision for them is for 15 days. How long will there provision last if 20 more join the groups?

(Q.51) 12 men can dig a trench in 8 days. How many men can dig the same in 6 days?

(Q.52)   A garrison of 500 men had provision for 24 days. However, a reinforcement of 300 men arrived. How long the food will last?

(Q.53) At 60 km/hour a car takes 2 hours to reach its destination. How long will the car take if it travel at a speed of 80 km/hours.

(Q.54) Bottles made by a factory in 63 days are 315. How manybottles can it make in 82 days?

 (Q.55) A road map with a scale of 1 cm representing 36 km. When you drive on a road for 144 km. What would be the distance covered by you in the map?

  (Q.56)   If a train is moving at a uniform speed of 75 km/hours. Find the time required to cover a distance of 300 km?

(Q.57) A car can finish a journey in 10 hours at the speed of 48 km/hr. By how much should its speed be increased so that it may take only 8 hours to cover the same distance ?

 (Q.58) Reema types 540 words in half an hours. How many words would she type in 6 minutes?

<3M>
(Q.59) If 56 men can do a piece of work in 42 days. How many men will do it in 14 days?

(Q.60) The scale of a map is given as 1:40000000. Two cities are 4 cm apart on the map. Find the actual distance between them.

 (Q.61) 12 pipes are required to fill a tank in 2 hours 40 minutes. How long will it take if only 10 pipes of the same type are used?

(Q.62) A box of sweets is divided among 48 children, they will get 7 sweets each. How many would each get if the number of the children is reduced by 6.

(Q.63) Match boxes were packed in 25 boxes with 12 match box in each. If the same packing were done using 20 match boxes, how many boxes would be filled?

(Q.64) A Schools has 8 period a day of 45 minutes duration. How long would each period if the school has 9 periods a day, assuming the number of school hrs to be same.

<5M>
(Q.65)   6 typists working 5 hrs a day can type the manuscript of a book in 16 days. How many days will 4 typists take to do the same job each working 6 hrs a day?

(Q.66) 120 men had food provision for 200 days after 5 days, 30 men die due to an epidemic. How long will the remaining foods last?

(Q.67) Prem wants to fix equal spokes in such a way that the angles between any pair of consecutive spokes are equal. He wants to fix spokes of 4, 6, 8 and 10.
(a) If he wants angles between the spokes be 40^0 then how many spokes he has to fix?