

DAV PUBLIC SCHOOL, KALINGA NAGAR, BBSR
SUBJECT – MATHEMATICS, CLASS – VIII
CHAPTER- 4 (DIRECT AND INVERSE VARIATION)
WORKSHEET (BASIC)

Very short Answer Type question (1 Mark)

1. If x and y are in direct variation, which of the following is correct?
a. $(x + y)$ is constant b. $(x - y)$ is constant
c. xy is constant d. $\frac{x}{y}$ is constant
2. If a and b varies inversely as each other and $a = 16$ when $b = 4$. Find b when $a = 8$
3. Distance = Speed \times _____
4. Number of books and their cost are said to be in _____ variation.
5. If $x=5y$, then x and y vary _____ with each other.

Short Answer type question– I (2 Marks)

6. If the cost of 9 toys is Rs. 333, find the cost of 16 such toys?
7. If 22.5m of a uniform iron rod weighs 85.5kg, what will be the length of 22.8kg of the same rod?
8. Complete the following table given that x varies inversely as y .

x	9	81
y	27	9

9. If 12m of a uniform iron rod weighs 42 kg. What will be the weight of 6m of same rod?
10. If 15 oranges cost Rs 70, find the cost of 39 oranges.

Short Answer type question – II (3 Marks)

11. A farmer has enough food to feed 20 animals in his cattle for 6 days. How long the food last if would there were 25 animals in his cattle?
12. Reema types 540 words during half an hour. How many words would she type in 6 minutes?
13. If 52 men can do a piece of work in 35 days, in how many men will do it in 14 days?
14. If 12m of a uniform iron rod weighs 42 kg. What will be the weight of 6m of same rod?

Long Answer type question (4 Marks)

15. In a hostel of 50 girls, there are food provisions for 40 days. If 30 more girls join the hostel, how long will these provisions last?

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SUBJECT – MATHEMATICS, CLASS – VIII

CHAPTER- 4 (DIRECT AND INVERSE VARIATION)

WORKSHEET (STANDARD)

Very short Answer Type question (1 Mark)

1. A worker is paid Rs. 200 for 8 days. If he works for 20 days, how much will he get?
2. A train covers a distance of 51 km in 45 minutes. How long will it take to cover 221 km?
3. x and y are in inverse proportion. If $y = 15$ then $x = 3$, find the value of y when $x = 9$.
4. If $xy = 10$, then x and y vary _____ with each other.
5. Time taken to cover a distance by a car and speed of the car are said to be in _____ variation.

Short Answer type question– I (2 Marks)

6. 55 cows can graze a field in 16 days. How many cows will graze the same field in 10 days?
7. If the weight of 12 sheets of thick paper is 40 grams, how many sheets of the same would weigh $2\frac{1}{2}$ kilograms?
8. Observe the following table and find if x and y are in direct variation.

x	5	8	12	15
y	15	24	36	60

9. A labourer gets Rs. 675 for nine days work. How many days should he work to get Rs. 900?
10. By walking for 30 minutes in the morning, a person covers 2 kilometres. How much distance will he/she cover in 20 minutes by walking at the same pace?

Short Answer type question – II (3 Marks)

11. If a box of sweets is divided among 24 children, they will get 5 sweets each. How many would each get, if the number of the children is reduced by 4?
12. A car travels 60 km in 1 hr 30 min. How long it take to cover a distance of 100 km at the same speed?
13. 11 men can dig 6.75m m long trench in one day. How many men should be employed for digging 27m long trench of the same type in one day?

Long Answer type question (4 Marks)

14. 120 men had food provisions for 200 days. After 5 days, 30 men die due to an epidemic. How long will the remaining food last?
15. A train 400m long is running at a speed of 72km/hr. How much time does it take to cross a telegraph post?

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SUBJECT – MATHEMATICS, CLASS – VIII
CHAPTER- 4 (DIRECT AND INVERSE VARIATION)
WORKSHEET (ADVANCE/HOTS)

Very short Answer Type question (1 Mark)

1. Pranshu takes 125 minutes in walking a distance of 100m. What distance would he cover in 315 minutes?
a. 250m b. 252m c. 254m d. none of these
2. If 'A' can finish a work in 'n' days then part of work finished in 1 day is:
a. $(1 - n)$ days b. $(n - 1)$ days c. $\frac{1}{n}$ days d. none of these
3. The perimeter of circle and its diameter vary _____ with each other.
4. If 12 pumps can empty a reservoir in 30 hours, then time required by 45 such pumps to empty the same reservoir is _____ hours.

Short Answer type question– I (2 Marks)

5. A water tank casts a shadow 21m long. A tree of height 9.5m casts a shadow 8m long at the same time. The length of the shadows are directly proportional to their heights. Find the height of the tank.
6. If 'a' is inversely proportional to \sqrt{b} and $a = 6$ when $b = 4$. What is the value of 'b' when $a = 4$?
7. In 25 days, the earth picks up 6×10^8 pounds of dust from the atmosphere. How much dust will it pick up in 15 days?
8. The amount of extension in an elastic spring varies directly as the weight hung on it. If a weight of 150 gm produces an extension of 2.9 cm, then what weight would produce an extension of 17.4 cm?
9. A shopkeeper has enough money to buy 40 books, each costing Rs125. How many books he can buy if he gets a discount of Rs 25 on each book?
10. A person can finish his work in 25 days, working eight hours a day. If he wants to finish the same work in 20 days, how many hours should he work in a day?

Short Answer type question – II (3 Marks)

11. A train 150m long is running at 72km/hr. It crosses a bridge in 13 seconds. Find the length of the bridge.
12. 120 men have food provision for 200 days. After 5 days, 30 men died due to an epidemic. How long will the remaining food last?
13. A train 150 meters is running at 72 km/hr. It crosses a bridge in 13 seconds. Find the length of the bridge.
14. A school has 8 periods a day each of 45 minutes duration. How long would each period be, if the school has 9 periods a day, assuming the number of school hours to be the same?

Long Answer type question (4 Marks)

15. Ravi starts for his school at 8:20 a.m. on his bicycle. If he travels at a speed of 10 km/hr, then he reaches his school late by 8 minutes but on travelling at 16 km/hr he reaches the school 10 minutes early. At what time does the school start?
16. While driving his car at a speed of 50 km/hr, Rajesh covers a distance from home to his office in 1 hour 30 minutes. One day, he was 15 minutes late from his home. In order to reach office at time, what should be the speed of the car? Also, find the total distance covered by Rajesh daily.
17. A garrison of 120 men has provision for 30 days. At the end of 5 days, 5 more men joined them. How many days can they sustain on the remaining provision?
18. A group of 3 friends staying together consume 54 kg of wheat every month. Some more friends join this group and they find the same amount of wheat last for 18 days. How many new members are there in this group?
19. Ranjeet starts his journey to a certain place by car at 9 a.m. and reaches the place at 1 p.m., if he drives the car at a speed of 30 km/hr. By how much should he increase the speed so that he can reach the place by 12 noon?
20. Three spraying machines working together can finish painting a house in 60 minutes. How long will it take for 5 machines of the same capacity to do the same job?