

MATHEMATICS WORKSHEET

CLASS VIII

TOPIC: DIRECT AND INVERSE PROPORTIONS

- In which of the following cases is there direct variation between the two given quantities? Justify your answers.
 - 10 workers finish a job in 6 days. In how many days will 20 workers finish the same job?
 - A car runs at a uniform speed. If it covers 135 km in 3 hours, how much distance will it cover in 2 hours?
 - A tap can completely fill a tank in $\frac{11}{2}$ hours. How much of it can be filled in $\frac{3}{4}$ hours?
 - Curtain cloth was purchased at Rs. 230 per meter. How much will 12 meters of cloth cost?
- If the mass of 35 sheets of paper is 280 g, how many sheets will weigh 7.2 kg?
- A family's expenses for 4 weeks 5 days amount to Rs. 1980. What is their expense at the same rate for 6 weeks 2 days?
- If 25 workers can finish a job in 40 days, how many workers will complete the same job in 25 days?
- 40 kg of rice lasts 30 days in a family of 8 persons. If 2 guests stay with the family, how many days will 40 kg of rice last?
- If Ram works 10 hours per day, he can finish a job in 28 days. If he has to finish the job in 20 days, how many hours should he work per day?
- The cost of 18 notebooks is Rs.423. Find the cost of 20 notebooks.
- If the cost of 9 toys is Rs. 333, find the cost of 16 such toys?
- If 22.5m of a uniform iron rod weighs 85.5kg, what will be the length of 22.8kg of the same rod?
- A worker is paid Rs. 200 for 8 days. If he works for 20 days, how much will he get?
- A train covers a distance of 51 km in 45 minutes. How long will it take to cover 221 km?
- x and y are in inverse proportion. If $y = 15$ then $x = 3$, find the value of y when $x = 9$.
- If $xy = 10$, then x and y vary _____ with each other.

14. Time taken to cover a distance by a car and speed of the car are said to be in _____ variation.
15. The perimeter of circle and its diameter vary _____ with each other.
16. If 12 pumps can empty a reservoir in 30 hours, then time required by 45 such pumps to empty the same reservoir is _____ hours.
17. If 'a' is inversely proportional to \sqrt{b} and $a = 6$ when $b = 4$. What is the value of 'b' when $a = 4$?
18. 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?
19. 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?
20. 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?
21. Complete the table if x and y vary directly.

x	3.5	4	7.5	-
y	-	8	-	15

22. The volume of a gas V varies inversely as the pressure P for a given mass of the gas. Fill in the blank spaces in the following table:

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Volume (in cm³)	-	48	60	-	100	-	200
Pressure (in atmosphere)	2	-	$\frac{3}{2}$	1	-	$\frac{1}{2}$	-