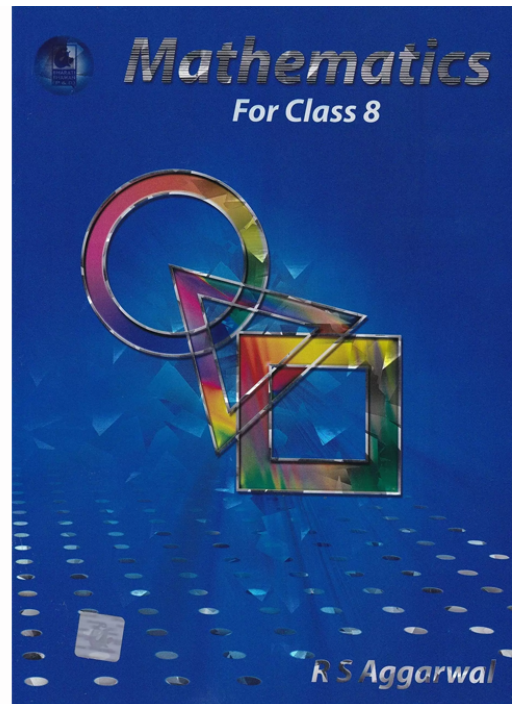


RS Aggarwal Solutions for Class 8 Maths Chapter 12–Direct and Inverse Proportion

Class 8 - Chapter 12 Direct and Inverse Proportion



For any clarifications or questions you can write to info@indcareer.com

Postal Address

IndCareer.com, 52, Shilpa Nagar, Somalwada Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888, **Website:** <https://www.indcareer.com>

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>



RS Aggarwal Solutions for Class 8 Maths Chapter 12–Direct and Inverse Proportion

Class 8: Maths Chapter 12 solutions. Complete Class 8 Maths Chapter 12 Notes.

RS Aggarwal Solutions for Class 8 Maths Chapter 12–Direct and Inverse Proportion

RS Aggarwal 8th Maths Chapter 12, Class 8 Maths Chapter 12 solutions

Ex 12A

Q1.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

(i)

Clearly, $\frac{x}{y} = \frac{3}{9} = \frac{5}{15} = \frac{8}{24} = \frac{11}{33} = \frac{26}{78} = \frac{1}{3}$ (constant)

Therefore, x and y are proportional.

(ii)

Clearly, $\frac{x}{y} = \frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40} = \frac{1}{4}$, while $\frac{14}{42} = \frac{1}{3}$

i.e., $\frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40}$ is not equal to $\frac{14}{42}$.

Therefore, x and y are not proportional.

(iii)

Clearly, $\frac{x}{y} = \frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75} = \frac{1}{3}$, while $\frac{15}{60} = \frac{18}{72} = \frac{1}{4}$

i.e., $\frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75}$ is not equal to $\frac{15}{60}$ and $\frac{18}{72}$.

Therefore, x and y are not proportional.

Q2.

Answer :

Since x and y are directly proportional, we have :

$$\frac{3}{72} = \frac{x_1}{120} = \frac{x_2}{192} = \frac{10}{y_1}$$

$$\text{Now, } \frac{3}{72} = \frac{x_1}{120}$$

$$\Rightarrow x_1 = \frac{120 \times 3}{72} = 5$$

$$\text{And, } \frac{3}{72} = \frac{x_2}{192}$$

$$\Rightarrow x_2 = \frac{3 \times 192}{72} = 8$$

$$\text{And, } \frac{3}{72} = \frac{10}{y_1}$$

$$\Rightarrow y_1 = \frac{72 \times 10}{3} = 240$$

Therefore, $x_1 = 5$, $x_2 = 8$ and $y_1 = 240$

Q3.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required distance be x km. Then, we have:

Quantity of diesel (in litres)	34	20
Distance (in km)	510	x

Clearly, the less the quantity of diesel consumed, the less is the distance covered.

So, this is a case of direct proportion.

Now, $\frac{34}{510} = \frac{20}{x}$

$$\Rightarrow \frac{1}{15} = \frac{20}{x}$$

$$\Rightarrow x \times 1 = 20 \times 15 = 300$$

Therefore, the required distance is 300 km.

Q4.

Answer :

Let the required charge be Rs x . Then, we have:

Distance (in km)	150	124
Taxi charges (in rupees)	1275	x

Clearly, the less the distance covered, the less will be the taxi charges.

So, this is a case of direct proportion.

Now, $\frac{150}{1275} = \frac{124}{x}$

$$\Rightarrow \frac{2}{17} = \frac{124}{x}$$

$$\Rightarrow (2 \times x) = (124 \times 17)$$

$$\Rightarrow x = \frac{124 \times 17}{2}$$

$$\Rightarrow x = 62 \times 17 = 1054$$

Therefore, the required charge is Rs 1,054.

Q5.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required distance be x km. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 5 \text{ h} = 5 \times 60 = 300 \text{ min}$$

Distance (in km)	16	x
Time (in min)	25	300

Clearly, the more the time taken, the more will be the distance covered.

So, this is a case of direct proportion.

$$\text{Now, } \frac{16}{25} = \frac{x}{300}$$

$$\Rightarrow x = \left(\frac{16 \times 300}{25} \right)$$

$$\Rightarrow x = 192$$

Therefore, the required distance is 192 km.

Q6.

Answer :

Let the required number of dolls be x . Then, we have:

No of dolls	18	x
Cost of dolls (in rupees)	630	455

Clearly, the less the amount of money, the less will be the number of dolls bought.

So, this is a case of direct proportion.

$$\text{Now, } \frac{18}{630} = \frac{x}{455}$$

$$\Rightarrow \frac{1}{35} = \frac{x}{455}$$

$$\Rightarrow x = \frac{455}{35}$$

$$\Rightarrow x = 13$$

Therefore, 13 dolls can be bought for Rs 455.

Q7.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required weight of sugar be x kg. Then, we have:

Weight of sugar (in kg)	9	x
Cost of sugar (in rupees)	166.50	259

Clearly, more quantity of sugar can be bought for more amount of money.

So, this is a case of direct proportion.

$$\text{Now, } \frac{9}{166.50} = \frac{x}{259}$$

$$\Rightarrow x = \frac{9 \times 259}{166.50}$$

$$\Rightarrow x = \frac{9 \times 259 \times 100}{16650}$$

$$\Rightarrow x = 14$$

Therefore, 14 kg of sugar can be bought for Rs 259.

Q8.

Answer :

Let the length of cloth be x m. Then, we have:

Length of cloth (in metres)	15	x
Cost of cloth (in rupees)	981	1308

Clearly, more length of cloth can be bought by more amount of money.

So, this is a case of direct proportion.

$$\text{Now, } \frac{15}{981} = \frac{x}{1308}$$

$$\Rightarrow x = \frac{15 \times 1308}{981}$$

$$\Rightarrow x = 20$$

Therefore, 20 m of cloth can be bought for Rs 1,308.

Q9.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x m be the length of the model of the ship. Then, we have:

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{Therefore, } 15 \text{ m} = 1500 \text{ cm}$$

$$35 \text{ m} = 3500 \text{ cm}$$

	Length of the mast (in cm)	Length of the ship (in cm)
Actual ship	1500	3500
Model of the ship	9	x

Clearly, if the length of the actual ship is more, then the length of the model ship will also be more.

So, this is a case of direct proportion.

$$\text{Now, } \frac{1500}{9} = \frac{3500}{x}$$

$$\Rightarrow x = \frac{3500 \times 9}{1500}$$

$$\Rightarrow x = 21 \text{ cm}$$

Therefore, the length of the model of the ship is 21 cm.

Q10.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x kg be the required amount of dust. Then, we have:

No. of days	8	15
Dust (in kg)	6.4×10^7	x

Clearly, more amount of dust will be collected in more number of days.

So, this is a case of direct proportion.

Now, $\frac{8}{6.4 \times 10^7} = \frac{15}{x}$

$$\Rightarrow x = \frac{15 \times 6.4 \times 10^7}{8}$$

$$\Rightarrow x = 12 \times 10^7$$

Therefore, 12,00,00,000 kg of dust will be picked up in 15 days.

Q11.

Answer :

Let x km be the required distance. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 1 \text{ h } 12 \text{ min} = (60 + 12) \text{ min} = 72 \text{ min}$$

Distance covered (in km)	50	x
Time (in min)	60	72

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

Now, $\frac{50}{60} = \frac{x}{72}$

$$\Rightarrow x = \frac{50 \times 72}{60}$$

$$\Rightarrow x = 60$$

Therefore, the distance travelled by the car in 1 h 12 min is 60 km.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q12.

Answer :

Let x km be the required distance covered by Ravi in 2 h 24 min.

Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 2 \text{ h } 24 \text{ min} = (120 + 24) \text{ min} = 144 \text{ min}$$

Distance covered (in km)	5	x
Time (in min)	60	144

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

$$\text{Now, } \frac{5}{60} = \frac{x}{144}$$

$$\Rightarrow x = \frac{5 \times 144}{60}$$

$$\Rightarrow x = 12$$

Therefore, the distance covered by Ravi in 2 h 24 min is 12 km.

Q13.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x mm be the required thickness. Then, we have:

Thickness of cardboard (in mm)	65	x
No. of cardboards	12	312

Clearly, when the number of cardboard is more, the thickness will also be more.

So, it is a case of direct proportion.

$$\text{Now, } \frac{65}{12} = \frac{x}{312}$$

$$\Rightarrow x = \frac{65 \times 312}{12}$$

$$\Rightarrow x = 1690$$

Therefore, the thickness of the pile of 312 cardboards is 1690 mm.

Q14.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x be the required number of men.

$$\text{Now, } 6\frac{3}{4} \text{ m} = \frac{27}{4} \text{ m}$$

Then, we have:

Number of men	11	x
Length of trench (in metres)	$\frac{27}{4}$	27

Clearly, the longer the trench, the greater will be the number of men required.

So, it is a case of direct proportion.

$$\text{Now, } \frac{11}{\frac{27}{4}} = \frac{x}{27}$$

$$\Rightarrow \frac{11 \times 4}{27} = \frac{x}{27}$$

$$\Rightarrow x = 44$$

Therefore, 44 men should be employed to dig a trench of length 27 m.

Q15.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let Reenu type x words in 8 minutes.

No. of words	540	x
Time taken (in min)	30	8

Clearly, less number of words will be typed in less time.

So, it is a case of direct proportion.

$$\text{Now, } \frac{540}{30} = \frac{x}{8}$$

$$\Rightarrow x = \frac{540 \times 8}{30}$$

$$\Rightarrow x = 144$$

Therefore, Reenu will type 144 words in 8 minutes.

Ex 12B

Q1.

Answer :

(i)

$$\text{Clearly, } \frac{x}{y} = \frac{3}{9} = \frac{5}{15} = \frac{8}{24} = \frac{11}{33} = \frac{26}{78} = \frac{1}{3} \text{ (constant)}$$

Therefore, x and y are proportional.

(ii)

$$\text{Clearly, } \frac{x}{y} = \frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40} = \frac{1}{4}, \text{ while } \frac{14}{42} = \frac{1}{3}$$

$$\text{i.e., } \frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40} \text{ is not equal to } \frac{14}{42}.$$

Therefore, x and y are not proportional.

(iii)

$$\text{Clearly, } \frac{x}{y} = \frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75} = \frac{1}{3}, \text{ while } \frac{15}{60} = \frac{18}{72} = \frac{1}{4}$$

$$\text{i.e., } \frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75} \text{ is not equal to } \frac{15}{60} \text{ and } \frac{18}{72}.$$

Therefore, x and y are not proportional.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q2.

Answer :

Since x and y are directly proportional, we have :

$$\frac{3}{72} = \frac{x_1}{120} = \frac{x_2}{192} = \frac{10}{y_1}$$

$$\text{Now, } \frac{3}{72} = \frac{x_1}{120}$$

$$\Rightarrow x_1 = \frac{120 \times 3}{72} = 5$$

$$\text{And, } \frac{3}{72} = \frac{x_2}{192}$$

$$\Rightarrow x_2 = \frac{3 \times 192}{72} = 8$$

$$\text{And, } \frac{3}{72} = \frac{10}{y_1}$$

$$\Rightarrow y_1 = \frac{72 \times 10}{3} = 240$$

Therefore, $x_1 = 5$, $x_2 = 8$ and $y_1 = 240$

Q3.

Answer :

Let the required distance be x km. Then, we have:

Quantity of diesel (in litres)	34	20
Distance (in km)	510	x

Clearly, the less the quantity of diesel consumed, the less is the distance covered.

So, this is a case of direct proportion.

$$\text{Now, } \frac{34}{510} = \frac{20}{x}$$

$$\Rightarrow \frac{1}{15} = \frac{20}{x}$$

$$\Rightarrow x \times 1 = 20 \times 15 = 300$$

Therefore, the required distance is 300 km.

Q4.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required charge be Rs x . Then, we have:

Distance (in km)	150	124
Taxi charges (in rupees)	1275	x

Clearly, the less the distance covered, the less will be the taxi charges.

So, this is a case of direct proportion.

Now, $\frac{150}{1275} = \frac{124}{x}$

$$\Rightarrow \frac{2}{17} = \frac{124}{x}$$

$$\Rightarrow (2 \times x) = (124 \times 17)$$

$$\Rightarrow x = \frac{124 \times 17}{2}$$

$$\Rightarrow x = 62 \times 17 = 1054$$

Therefore, the required charge is Rs 1,054.

Q5.

Answer :

Let the required distance be x km. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 5 \text{ h} = 5 \times 60 = 300 \text{ min}$$

Distance (in km)	16	x
Time (in min)	25	300

Clearly, the more the time taken, the more will be the distance covered.

So, this is a case of direct proportion.

Now, $\frac{16}{25} = \frac{x}{300}$

$$\Rightarrow x = \left(\frac{16 \times 300}{25} \right)$$

$$\Rightarrow x = 192$$

Therefore, the required distance is 192 km.

Q6.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>



Answer :

Let the required number of dolls be x . Then, we have:

No of dolls	18	x
Cost of dolls (in rupees)	630	455

Clearly, the less the amount of money, the less will be the number of dolls bought.

So, this is a case of direct proportion.

Now, $\frac{18}{630} = \frac{x}{455}$

$$\Rightarrow \frac{1}{35} = \frac{x}{455}$$

$$\Rightarrow x = \frac{455}{35}$$

$$\Rightarrow x = 13$$

Therefore, 13 dolls can be bought for Rs 455.

Q7.

Answer :

Let the required weight of sugar be x kg. Then, we have:

Weight of sugar (in kg)	9	x
Cost of sugar (in rupees)	166.50	259

Clearly, more quantity of sugar can be bought for more amount of money.

So, this is a case of direct proportion.

Now, $\frac{9}{166.50} = \frac{x}{259}$

$$\Rightarrow x = \frac{9 \times 259}{166.50}$$

$$\Rightarrow x = \frac{9 \times 259 \times 100}{16650}$$

$$\Rightarrow x = 14$$

Therefore, 14 kg of sugar can be bought for Rs 259.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q8.

Answer :

Let the length of cloth be x m. Then, we have:

Length of cloth (in metres)	15	x
Cost of cloth (in rupees)	981	1308

Clearly, more length of cloth can be bought by more amount of money.

So, this is a case of direct proportion.

$$\text{Now, } \frac{15}{981} = \frac{x}{1308}$$

$$\Rightarrow x = \frac{15 \times 1308}{981}$$

$$\Rightarrow x = 20$$

Therefore, 20 m of cloth can be bought for Rs 1,308.

Q9.

Answer :

Let x m be the length of the model of the ship. Then, we have:

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{Therefore, } 15 \text{ m} = 1500 \text{ cm}$$

$$35 \text{ m} = 3500 \text{ cm}$$

	Length of the mast (in cm)	Length of the ship (in cm)
Actual ship	1500	3500
Model of the ship	9	x

Clearly, if the length of the actual ship is more, then the length of the model ship will also be more.

So, this is a case of direct proportion.

$$\text{Now, } \frac{1500}{9} = \frac{3500}{x}$$

$$\Rightarrow x = \frac{3500 \times 9}{1500}$$

$$\Rightarrow x = 21 \text{ cm}$$

Therefore, the length of the model of the ship is 21 cm.

Q10.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x kg be the required amount of dust. Then, we have:

No. of days	8	15
Dust (in kg)	6.4×10^7	x

Clearly, more amount of dust will be collected in more number of days.

So, this is a case of direct proportion.

Now, $\frac{8}{6.4 \times 10^7} = \frac{15}{x}$

$$\Rightarrow x = \frac{15 \times 6.4 \times 10^7}{8}$$

$$\Rightarrow x = 12 \times 10^7$$

Therefore, 12,00,00,000 kg of dust will be picked up in 15 days.

Q11.

Answer :

Let x km be the required distance. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 1 \text{ h } 12 \text{ min} = (60 + 12) \text{ min} = 72 \text{ min}$$

Distance covered (in km)	50	x
Time (in min)	60	72

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

Now, $\frac{50}{60} = \frac{x}{72}$

$$\Rightarrow x = \frac{50 \times 72}{60}$$

$$\Rightarrow x = 60$$

Therefore, the distance travelled by the car in 1 h 12 min is 60 km.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q12.

Answer :

Let x km be the required distance covered by Ravi in 2 h 24 min.

Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 2 \text{ h } 24 \text{ min} = (120 + 24) \text{ min} = 144 \text{ min}$$

Distance covered (in km)	5	x
Time (in min)	60	144

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

$$\text{Now, } \frac{5}{60} = \frac{x}{144}$$

$$\Rightarrow x = \frac{5 \times 144}{60}$$

$$\Rightarrow x = 12$$

Therefore, the distance covered by Ravi in 2 h 24 min is 12 km.

Q13.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x mm be the required thickness. Then, we have:

Thickness of cardboard (in mm)	65	x
No. of cardboards	12	312

Clearly, when the number of cardboard is more, the thickness will also be more.

So, it is a case of direct proportion.

$$\text{Now, } \frac{65}{12} = \frac{x}{312}$$

$$\Rightarrow x = \frac{65 \times 312}{12}$$

$$\Rightarrow x = 1690$$

Therefore, the thickness of the pile of 312 cardboards is 1690 mm.

Q14.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x be the required number of men.

$$\text{Now, } 6\frac{3}{4} \text{ m} = \frac{27}{4} \text{ m}$$

Then, we have:

Number of men	11	x
Length of trench (in metres)	$\frac{27}{4}$	27

Clearly, the longer the trench, the greater will be the number of men required.

So, it is a case of direct proportion.

$$\text{Now, } \frac{11}{\frac{27}{4}} = \frac{x}{27}$$

$$\Rightarrow \frac{11 \times 4}{27} = \frac{x}{27}$$

$$\Rightarrow x = 44$$

Therefore, 44 men should be employed to dig a trench of length 27 m.

Q15.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let Reenu type x words in 8 minutes.

No. of words	540	x
Time taken (in min)	30	8

Clearly, less number of words will be typed in less time.

So, it is a case of direct proportion.

$$\text{Now, } \frac{540}{30} = \frac{x}{8}$$

$$\Rightarrow x = \frac{540 \times 8}{30}$$

$$\Rightarrow x = 144$$

Therefore, Reenu will type 144 words in 8 minutes.

Ex 12C

Q1.

Answer :

(i)

$$\text{Clearly, } \frac{x}{y} = \frac{3}{9} = \frac{5}{15} = \frac{8}{24} = \frac{11}{33} = \frac{26}{78} = \frac{1}{3} \text{ (constant)}$$

Therefore, x and y are proportional.

(ii)

$$\text{Clearly, } \frac{x}{y} = \frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40} = \frac{1}{4}, \text{ while } \frac{14}{42} = \frac{1}{3}$$

$$\text{i.e., } \frac{2.5}{10} = \frac{4}{16} = \frac{7.5}{30} = \frac{10}{40} \text{ is not equal to } \frac{14}{42}.$$

Therefore, x and y are not proportional.

(iii)

$$\text{Clearly, } \frac{x}{y} = \frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75} = \frac{1}{3}, \text{ while } \frac{15}{60} = \frac{18}{72} = \frac{1}{4}$$

$$\text{i.e., } \frac{5}{15} = \frac{7}{21} = \frac{9}{27} = \frac{25}{75} \text{ is not equal to } \frac{15}{60} \text{ and } \frac{18}{72}.$$

Therefore, x and y are not proportional.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q2.

Answer :

Since x and y are directly proportional, we have :

$$\frac{3}{72} = \frac{x_1}{120} = \frac{x_2}{192} = \frac{10}{y_1}$$

$$\text{Now, } \frac{3}{72} = \frac{x_1}{120}$$

$$\Rightarrow x_1 = \frac{120 \times 3}{72} = 5$$

$$\text{And, } \frac{3}{72} = \frac{x_2}{192}$$

$$\Rightarrow x_2 = \frac{3 \times 192}{72} = 8$$

$$\text{And, } \frac{3}{72} = \frac{10}{y_1}$$

$$\Rightarrow y_1 = \frac{72 \times 10}{3} = 240$$

Therefore, $x_1 = 5$, $x_2 = 8$ and $y_1 = 240$

Q3.

Answer :

Let the required distance be x km. Then, we have:

Quantity of diesel (in litres)	34	20
Distance (in km)	510	x

Clearly, the less the quantity of diesel consumed, the less is the distance covered.

So, this is a case of direct proportion.

$$\text{Now, } \frac{34}{510} = \frac{20}{x}$$

$$\Rightarrow \frac{1}{15} = \frac{20}{x}$$

$$\Rightarrow x \times 1 = 20 \times 15 = 300$$

Therefore, the required distance is 300 km.

Q4.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required charge be Rs x . Then, we have:

Distance (in km)	150	124
Taxi charges (in rupees)	1275	x

Clearly, the less the distance covered, the less will be the taxi charges.

So, this is a case of direct proportion.

Now, $\frac{150}{1275} = \frac{124}{x}$

$$\Rightarrow \frac{2}{17} = \frac{124}{x}$$

$$\Rightarrow (2 \times x) = (124 \times 17)$$

$$\Rightarrow x = \frac{124 \times 17}{2}$$

$$\Rightarrow x = 62 \times 17 = 1054$$

Therefore, the required charge is Rs 1,054.

Q5.

Answer :

Let the required distance be x km. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 5 \text{ h} = 5 \times 60 = 300 \text{ min}$$

Distance (in km)	16	x
Time (in min)	25	300

Clearly, the more the time taken, the more will be the distance covered.

So, this is a case of direct proportion.

Now, $\frac{16}{25} = \frac{x}{300}$

$$\Rightarrow x = \left(\frac{16 \times 300}{25} \right)$$

$$\Rightarrow x = 192$$

Therefore, the required distance is 192 km.

Q6.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let the required number of dolls be x . Then, we have:

No of dolls	18	x
Cost of dolls (in rupees)	630	455

Clearly, the less the amount of money, the less will be the number of dolls bought.

So, this is a case of direct proportion.

$$\text{Now, } \frac{18}{630} = \frac{x}{455}$$

$$\Rightarrow \frac{1}{35} = \frac{x}{455}$$

$$\Rightarrow x = \frac{455}{35}$$

$$\Rightarrow x = 13$$

Therefore, 13 dolls can be bought for Rs 455.

Q7.

Answer :

Let the required weight of sugar be x kg. Then, we have:

Weight of sugar (in kg)	9	x
Cost of sugar (in rupees)	166.50	259

Clearly, more quantity of sugar can be bought for more amount of money.

So, this is a case of direct proportion.

$$\text{Now, } \frac{9}{166.50} = \frac{x}{259}$$

$$\Rightarrow x = \frac{9 \times 259}{166.50}$$

$$\Rightarrow x = \frac{9 \times 259 \times 100}{16650}$$

$$\Rightarrow x = 14$$

Therefore, 14 kg of sugar can be bought for Rs 259.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q8.

Answer :

Let x m be the length of the model of the ship. Then, we have:

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{Therefore, } 15 \text{ m} = 1500 \text{ cm}$$

$$35 \text{ m} = 3500 \text{ cm}$$

	Length of the mast (in cm)	Length of the ship (in cm)
Actual ship	1500	3500
Model of the ship	9	x

Clearly, if the length of the actual ship is more, then the length of the model ship will also be more.

So, this is a case of direct proportion.

$$\text{Now, } \frac{1500}{9} = \frac{3500}{x}$$

$$\Rightarrow x = \frac{3500 \times 9}{1500}$$

$$\Rightarrow x = 21 \text{ cm}$$

Therefore, the length of the model of the ship is 21 cm.

Q9.

Answer :

Let x m be the length of the model of the ship. Then, we have:

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{Therefore, } 15 \text{ m} = 1500 \text{ cm}$$

$$35 \text{ m} = 3500 \text{ cm}$$

	Length of the mast (in cm)	Length of the ship (in cm)
Actual ship	1500	3500
Model of the ship	9	x

Clearly, if the length of the actual ship is more, then the length of the model ship will also be more.

So, this is a case of direct proportion.

$$\text{Now, } \frac{1500}{9} = \frac{3500}{x}$$

$$\Rightarrow x = \frac{3500 \times 9}{1500}$$

$$\Rightarrow x = 21 \text{ cm}$$

Therefore, the length of the model of the ship is 21 cm.

Q10.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x kg be the required amount of dust. Then, we have:

No. of days	8	15
Dust (in kg)	6.4×10^7	x

Clearly, more amount of dust will be collected in more number of days.

So, this is a case of direct proportion.

$$\text{Now, } \frac{8}{6.4 \times 10^7} = \frac{15}{x}$$

$$\Rightarrow x = \frac{15 \times 6.4 \times 10^7}{8}$$

$$\Rightarrow x = 12 \times 10^7$$

Therefore, 12,00,00,000 kg of dust will be picked up in 15 days.

Q11.

Answer :

Let x km be the required distance. Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 1 \text{ h } 12 \text{ min} = (60 + 12) \text{ min} = 72 \text{ min}$$

Distance covered (in km)	50	x
Time (in min)	60	72

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

$$\text{Now, } \frac{50}{60} = \frac{x}{72}$$

$$\Rightarrow x = \frac{50 \times 72}{60}$$

$$\Rightarrow x = 60$$

Therefore, the distance travelled by the car in 1 h 12 min is 60 km.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Q12.

Answer :

Let x km be the required distance covered by Ravi in 2 h 24 min.

Then, we have:

$$1 \text{ h} = 60 \text{ min}$$

$$\text{i.e., } 2 \text{ h } 24 \text{ min} = (120 + 24) \text{ min} = 144 \text{ min}$$

Distance covered (in km)	5	x
Time (in min)	60	144

Clearly, more distance will be covered in more time.

So, this is a case of direct proportion.

$$\text{Now, } \frac{5}{60} = \frac{x}{144}$$

$$\Rightarrow x = \frac{5 \times 144}{60}$$

$$\Rightarrow x = 12$$

Therefore, the distance covered by Ravi in 2 h 24 min is 12 km.

Q13.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x mm be the required thickness. Then, we have:

Thickness of cardboard (in mm)	65	x
No. of cardboards	12	312

Clearly, when the number of cardboard is more, the thickness will also be more.

So, it is a case of direct proportion.

$$\text{Now, } \frac{65}{12} = \frac{x}{312}$$

$$\Rightarrow x = \frac{65 \times 312}{12}$$

$$\Rightarrow x = 1690$$

Therefore, the thickness of the pile of 312 cardboards is 1690 mm.

Q14.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let x be the required number of men.

$$\text{Now, } 6\frac{3}{4} \text{ m} = \frac{27}{4} \text{ m}$$

Then, we have:

Number of men	11	x
Length of trench (in metres)	$\frac{27}{4}$	27

Clearly, the longer the trench, the greater will be the number of men required.

So, it is a case of direct proportion.

$$\text{Now, } \frac{11}{\frac{27}{4}} = \frac{x}{27}$$

$$\Rightarrow \frac{11 \times 4}{27} = \frac{x}{27}$$

$$\Rightarrow x = 44$$

Therefore, 44 men should be employed to dig a trench of length 27 m.

Q15.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Answer :

Let Reenu type x words in 8 minutes.

No. of words	540	x
Time taken (in min)	30	8

Clearly, less number of words will be typed in less time.

So, it is a case of direct proportion.

Now, $\frac{540}{30} = \frac{x}{8}$

$$\Rightarrow x = \frac{540 \times 8}{30}$$

$$\Rightarrow x = 144$$

Therefore, Reenu will type 144 words in 8 minutes.



RS Aggarwal Class 8 Solutions

- Chapter 1–Rational Numbers
- Chapter 2–Exponents
- Chapter 3–Squares and Square Roots
- Chapter 4–Cubes and Cube Roots
- Chapter 5–Playing with Numbers
- Chapter 6–Operations on Algebraic Expressions
- Chapter 7–Factorisation
- Chapter 8–Linear Equations
- Chapter 9–Percentage
- Chapter 10–Profit and Loss
- Chapter 11–Compound Interest
- Chapter 12–Direct and Inverse Proportion
- Chapter 13–Time and Work
- Chapter 14–Polygons
- Chapter 15–Quadrilaterals
- Chapter 16–Parallelograms
- Chapter 17–Construction of Quadrilaterals
- Chapter 18–Area of a Trapezium and a Polygon
- Chapter 19–Three-Dimensional Figures
- Chapter 20–Volume and Surface Area of Solids
- Chapter 21–Data Handling
- Chapter 22–Constructing and Interpreting Bar Graphs
- Chapter 23–Pie Charts
- Chapter 24–Probability
- Chapter 25–Graphs

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

About RS Aggarwal Class 8 Book

Investing in an R.S. Aggarwal book will never be of waste since you can use the book to prepare for various competitive exams as well. RS Aggarwal is one of the most prominent books with an endless number of problems. R.S. Aggarwal's book very neatly explains every derivation, formula, and question in a very consolidated manner. It has tonnes of examples, practice questions, and solutions even for the NCERT questions.

He was born on January 2, 1946 in a village of Delhi. He graduated from Kirori Mal College, University of Delhi. After completing his M.Sc. in Mathematics in 1969, he joined N.A.S. College, Meerut, as a lecturer. In 1976, he was awarded a fellowship for 3 years and joined the University of Delhi for his Ph.D. Thereafter, he was promoted as a reader in N.A.S. College, Meerut. In 1999, he joined M.M.H. College, Ghaziabad, as a reader and took voluntary retirement in 2003. He has authored more than 75 titles ranging from Nursery to M. Sc. He has also written books for competitive examinations right from the clerical grade to the I.A.S. level.

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

Frequently Asked Questions (FAQs)

Why must I refer to the RS Aggarwal textbook?

RS Aggarwal is one of the most important reference books for high school grades and is recommended to every high school student. The book covers every single topic in detail. It goes in-depth and covers every single aspect of all the mathematics topics and covers both theory and problem-solving. The book is true of great help for every high school student. Solving a majority of the questions from the book can help a lot in understanding topics in detail and in a manner that is very simple to understand. Hence, as a high school student, you must definitely dwell your hands on RS Aggarwal!

Why should you refer to RS Aggarwal textbook solutions on Indcareer?

RS Aggarwal is a book that contains a few of the hardest questions of high school mathematics. Solving them and teaching students how to solve questions of such high difficulty is not the job of any neophyte. For solving such difficult questions and more importantly, teaching the problem-solving methodology to students, an expert teacher is mandatory!

Does IndCareer cover RS Aggarwal Textbook solutions for Class 6-12?

RS Aggarwal is available for grades 6 to 12 and hence our expert teachers have formulated detailed solutions for all the questions of each edition of the textbook. On our website, you'll be able to find solutions to the RS Aggarwal textbook right from Class 6 to Class 12. You can head to the website and download these solutions for free. All the solutions are available in PDF format and are free to download!

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>

About IndCareer

IndCareer.com is a leading developer of online career guidance resources for the Indian marketplace. Established in 2007, IndCareer.com is currently used by over thousands of institutions across India, including schools, employment agencies, libraries, colleges and universities.

IndCareer.com is designed to assist you in making the right career decision - a decision that meets your unique interests and personality.

For any clarifications or questions you can write to **info@indcareer.com**

Postal Address

IndCareer.com
52, Shilpa Nagar,
Somalwada
Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888

Website: <https://www.indcareer.com>

<https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-12-direct-and-inverse-proportion/>