

Practice Set 9.1 8th Std Maths Answers Chapter 9 Discount and Commission

8th Standard Maths Practice Set 9.1 Question 1. If marked price = Rs 1700, selling price = Rs 1540, then find the discount.

Solution:

Here, Marked price = Rs 1700,

selling price = Rs 1540

Selling price = Marked price – Discount

$$\therefore 1540 = 1700 - \text{Discount}$$

$$\therefore \text{Discount} = 1700 - 1540$$

$$= \text{Rs } 160$$

\therefore The amount of discount is Rs 160.

Discount and Commission Practice Set 9.1 Question 2. If marked price Rs 990 and percentage of discount is 10, then find the selling price.

Solution:

Here, marked price = Rs 990,

discount = 10%

Let the percentage of discount be x

$$\therefore x = 10\%$$

i. Discount

$$= \frac{\text{Marked price} \times x}{100}$$

$$= \frac{990 \times 10}{100}$$

$$= \text{Rs } 99$$

ii. Selling price = Marked price – Discount

$$= 990 - 99$$

$$= \text{Rs } 891$$

\therefore The selling price is Rs 891.

Practice Set 9.1 Question 3. If selling price Rs 900, discount is 20%, then find the marked price.

Solution:

Here, selling price = Rs 900, discount = 20%

Let the marked price be Rs 100

Since, the discount given = 20%

$$\therefore \text{Amount of discount} = \text{Rs } 20$$

$$\therefore \text{Selling price} = 100 - 20 = \text{Rs } 80$$

Let actual marked price be Rs x

$$\therefore \text{For marked price of Rs } x, \text{ selling price is Rs } 900$$

$$80 \times 100 = 900 \times x$$

$$\therefore 80 \times x = 100 \times 900$$

$$\therefore X = 100 \times 90080$$

$$\therefore x = \text{Rs } 1125$$

\therefore The marked price is Rs 1125.

Discount and Commission Std 8 Question 4. The marked price of the fan is Rs 3000. Shopkeeper gave 12% discount on it. Find the total discount and selling price of the fan.

Solution:

Here, Marked price = Rs 3000, discount = 12%

Let the percentage of discount be x.

$$\therefore x = 12\%$$

i. Discount

$$= \frac{\text{Marked price} \times x}{100}$$

$$= \frac{3000 \times 12}{100}$$

$$= 30 \times 12$$

$$= \text{Rs } 360$$

ii. Selling price = Marked price – Discount

$$= 3000 - 360$$

$$= \text{Rs } 2640$$

\therefore The total discount is Rs 360 and the selling price of the fan is Rs 2640.

Discount and Commission 8th Standard Question 5. The marked price of a mixer is Rs 2300. A customer purchased it for Rs 1955. Find percentage of discount offered to the customer.

Solution:

Here, marked price = Rs 2300,

selling price = Rs 1955

i. Selling price = Marked price – Discount

$$\therefore 1955 = 2300 - \text{Discount}$$

$$\therefore \text{Discount} = 2300 - 1955$$

$$= \text{Rs } 345$$

ii. Let the percentage of discount be x

$$\frac{x}{100} = \frac{\text{Discount}}{\text{Marked price}}$$

$$\therefore \frac{x}{100} = \frac{345}{2300}$$

$$\therefore x = \frac{345}{2300} \times 100$$

$$= \frac{345}{23}$$

$$\therefore x = 15\%$$

\therefore The percentage of discount offered to the customer is 15%.

Question 6.

A shopkeeper gives 11% discount on a television set, hence the cost price of it is Rs 22,250. Then find the marked price of the television set.

Solution:

Here, selling price = Rs 22,250, discount = 11%

Let marked price be Rs 100

Since, the discount given = 11%

∴ Amount of discount = Rs 11

∴ Selling price = 100 – 11 = Rs 89

∴ Let actual marked price be Rs x

∴ For marked price of Rs x, selling price is Rs 22,250

$$\therefore \frac{89}{100} = \frac{22,250}{x}$$

$$\therefore x \times 89 = 100 \times 22,250$$

$$\therefore x = \frac{100 \times 22,250}{89}$$

$$= 100 \times 250$$

∴ x = Rs 25,000

∴ The marked price of the television set is Rs 25,000.

8th Std Maths Discount and Commission Question 7. After offering discount of 10% on marked price, a customer gets total discount of Rs 17. To find the cost price for the customer, fill in the following boxes with appropriate numbers and complete the activity.

Solution:

Suppose, marked price of the item = 100 rupees Therefore, for customer that item costs 100 – 10 = 90 rupees.

Hence, when the discount is [10] then the selling price is [90] rupees.

Suppose when the discount is [17] rupees, the selling price is x rupees.

$$\therefore \frac{x}{17} = \frac{90}{10}$$

$$\therefore x = \frac{90 \times 17}{10}$$

$$\therefore x = 9 \times 17$$

$$\therefore x = 153$$

∴ The customer will get the item for Rs 153.

Question 8.

A shopkeeper decides to sell a certain item at a certain price. He tags the price on the item by increasing the decided price by 25%. While selling the item, he offers 20% discount. Find how many more or less percent he gets on the decided price.

Solution:

Here, price increase = 25%,

discount offered = 20%

Let the decided price be Rs 100

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∴ Increase in price = Rs 25

∴ Shopkeeper marks the price = 100 + 25

= Rs 125

∴ marked price = Rs 125

Let the percentage of discount be x

∴ x = 20%

$$\begin{aligned}\therefore \text{Discount} &= \frac{\text{marked price} \times x}{100} \\ &= \frac{125 \times 20}{100} \\ &= \frac{2500}{100} \\ &= ₹ 25\end{aligned}$$

∴ Selling price = Marked price – Discount

= 125 – 25

= Rs 100

∴ If the decided price is Rs 100, then shopkeeper gets Rs 100.

∴ The shopkeeper gets neither more nor less than the decided price i.e. he gets 0% more / less.

Maharashtra Board Class 8 Maths Chapter 9 Discount and Commission Practice Set 9.1 Intext Questions and Activities

Question 1.

Write the appropriate numbers in the following boxes. (Textbook pg. no. 51)

1. $12\frac{1}{100} =$ ___ percent = ___%
2. 47% = ___
3. 86% = ___
4. 4% of 300 = $300 \times \frac{4}{100} =$ ___
5. 15% of 1700 = $1700 \times \frac{15}{100} =$ ___

Solution:

1. $12\frac{1}{100} = 12$ percent = 12%
2. 47% = $47\frac{1}{100}$
3. 86% = $86\frac{1}{100}$
4. 4% of 300 = $300 \times \frac{4}{100} = 12$
5. 15% of 1700 = $1700 \times \frac{15}{100} = 255$

Question 2.

You may have seen advertisements like 'Monsoon Sale', 'Stock Clearance Sale' etc offering different discount. In such a sale, a discount is offered on various goods. Generally in the month of July, sales of clothes are declared. Find and discuss the purpose of such sales. (Textbook pg. no. 51)

Solution:

(Students should attempt the above activity on their own)

Practice Set 9.2 8th Std Maths Answers Chapter 9 Discount and Commission

Question 1.

John sold books worth Rs 4500 for a publisher. For this he received 15% commission.

Complete the following activity to find the total commission John obtained.

Solution:

Selling price of the books = Rs 4500

Rate of commission = 15%

Commission obtained = 15% of selling price

$$= \frac{15}{100} \times 4500$$

$$= 15 \times 45$$

∴ Commission obtained = 675 Rupees.

∴ The total commission obtained by John is Rs 675.

Question 2.

Rafique sold flowers worth Rs 15,000 by giving 4% commission to the agent. Find the commission he paid. Find the amount received by Rafique.

Solution:

Here, selling price of flowers = Rs 15,000,

Rate of commission = 4%

i. Commission = 4% of selling price

$$= \frac{4}{100} \times 15,000$$

$$= 4 \times 150$$

∴ Commission = Rs 600

ii. Amount received by Rafique = selling price – commission

$$= 15,000 - 600$$

$$= \text{Rs } 14,400$$

∴ Rafique paid Rs 600 as commission and the amount received by him was Rs 14,400.

Question 3.

A farmer sold food grains for Rs 9200 through an agent. The rate of commission was 2%.

How much amount did the agent get ?

Solution:

Here, selling price of food grains = Rs 9200,

Rate of commission = 2%

Commission = 2% of selling price

$$= \frac{2}{100} \times 9200$$

$$= 2 \times 92$$

$$= \text{Rs } 184$$

∴ The agent got a commission of Rs 184.

Question 4.

Umatai purchased following items from a Khadi – Bhandar.

i. 3 sarees for Rs 560 each.

ii. 6 bottles of honey for Rs 90 each.

On the purchase, she received a rebate of 12%. How much total amount did Umatai pay?

Solution:

Here, number of sarees = 3,

Price of each saree = Rs 560

\therefore Cost of 3 sarees = 560×3

= Rs 1680 ... (i)

Also, number of honey bottles = 6,

Price of each bottle = Rs 90

\therefore Cost of 6 honey bottles = 90×6

= Rs 540

Total amount of purchase

= cost of 3 sarees + cost of 6 honey bottles

= $1680 + 540$... [From (i) and (ii)]

= Rs 2220 ... (iii)

Rate of rebate = 12%

Rebate = 12% of total amount of purchase

= 12100×2220

= 12×22.20

= Rs 266.40 ... (iv)

Amount paid by Umatai

= Total amount of purchase – Rebate

= $2,220 - 266.40$... [From (iii) and (iv)]

= Rs 1953.60

\therefore The total amount paid by Umatai is Rs 1953.60.

Question 5.

Use the given information and fill in the boxes with suitable numbers.

Smt. Deepanjali purchased a house for Rs 7,50,000 from Smt. Leelaben through an agent.

Agent has charged 2 % brokerage from both of them.

Solution:

i. Smt. Deepanjali paid $7,50,000 \times 2100$

= $7,500 \times 2$ = Rs 15,000 brokerage for purchasing the house.

ii. Smt. Leelaben paid brokerage of Rs 15,000

iii. Total brokerage received by the agent is = $15,000 + 15,000$ = Rs 30,000

iv. The cost of house Smt. Deepanjali paid is = $7,50,000 + 15,000$ = Rs 7,65,000

v. The selling price of house for Smt. Leelaben is = $7,50,000 - 15,000$

= Rs 7,35,000

Miscellaneous Exercise 1 8th Std Maths Answers

Question 1.

Choose the correct alternative answer for each of the following questions.

(A) side PQ and side QR
(B) side PQ and side SR
(C) side SR and side SP
(D) side PS and side PQ

(B) side PQ and side SR

A parallelogram PQRS is shown. The interior angles are labeled as follows: $\angle P = 108^\circ$, $\angle S = 72^\circ$, $\angle Q = 72^\circ$, and $\angle R = 108^\circ$.

$$\therefore \text{side PQ} \parallel \text{side SR}$$

- a. Diagonals of a rectangle are perpendicular bisectors of each other.
- b. Diagonals of a rhombus are perpendicular bisectors of each other.
- c. Diagonals of a parallelogram are perpendicular bisectors of each other.
- d. Diagonals of a kite bisect each other.

(D) Statements (a), (c) and (d) are true.

(B) Only statement (b) is true

(D) 0.19

Hint:

$$0.006859 \text{-----} \sqrt[3]{}$$

$$\begin{aligned}
 &= \sqrt[3]{\frac{6859}{1000000}} \\
 &= \frac{\sqrt[3]{6859}}{\sqrt[3]{1000000}} \quad \dots \left[\left(\frac{a}{b} \right)^m = \frac{a^m}{b^m} \right] \\
 &= \frac{\sqrt[3]{19^3}}{\sqrt[3]{100^3}} \\
 &= \frac{19}{100} \\
 &= 0.19
 \end{aligned}$$

Question 2.

Find the cube roots of the following numbers. [Chapter 3]

i. 5832

ii. 4096

Solution:

$$\begin{aligned}
 \text{i. } 5832 &= 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \\
 &= (2 \times 3 \times 3) \times (2 \times 3 \times 3) \times (2 \times 3 \times 3) \\
 &= (2 \times 3 \times 3)^3 \\
 &= (18)^3
 \end{aligned}$$

$$5832 \text{-----} \sqrt[3]{} = 18$$

2	5832
2	2916
2	1458
3	729
3	243
3	81
3	27
3	9
3	3
	1

$$\begin{aligned}
 \text{ii. } 4096 &= (4 \times 4) \times (4 \times 4) \times (4 \times 4) \\
 &= (4 \times 4)^3 \\
 &= 16^3
 \end{aligned}$$

$$4096 \text{ ---- } \sqrt[4]{4096} = 16$$

4	4096
4	1024
4	256
4	64
4	16
4	4
	1

Question 3.

$m \propto n$, $n = 15$ when $m = 25$. Hence

i. Find m when $n = 87$,

ii. Find n when $m = 155$. [Chapter 7]

Solution:

Given that, $m \propto n$

$$\therefore m = kn \dots (i)$$

where, k is the constant of variation.

When $m = 25$, $n = 15$

\therefore Substituting, $m = 25$ and $n = 15$ in (i), we get

$$m = kn$$

$$\therefore 25 = k \times 15$$

$$\therefore k = \frac{25}{15}$$

$$\therefore k = \frac{5}{3}$$

Substituting $k = \frac{5}{3}$ in (i), we get

$$m = kn$$

$$\therefore m = \frac{5}{3}n \dots (ii)$$

i. When $n = 87$, $m = ?$

Substituting $n = 87$ in (ii), we get

$$m = \frac{5}{3}n$$

$$m = \frac{5}{3} \times 87$$

$$m = 5 \times 29$$

$$m = 145$$

ii. When $m = 155$, $n = ?$

\therefore Substituting $m = 155$ in (ii), we get

$$m = \frac{5}{3}n$$

$$\therefore 155 = \frac{5}{3}n$$

$$\therefore 155 \times \frac{3}{5} = n$$

$$\therefore n = 31 \times 3$$

$$\therefore n = 93$$

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Question 4.

y varies inversely with x. If y = 30 when x = 12, find [Chapter 7]

i. y when x = 15,

ii. x when y = 18.

Solution:

Given that,

$$y \propto \frac{1}{x}$$

$$\therefore y = k \times \frac{1}{x}$$

where, k is the constant of variation.

$$\therefore y \times x = k \dots(i)$$

When x = 12, y = 30

\therefore Substituting, x = 12 and y = 30 in (i), we get

$$y \times x = k$$

$$\therefore 30 \times 12 = k$$

$$\therefore k = 360$$

Substituting, k = 360 in (i), we get

$$y \times x = k$$

$$\therefore y \times x = 360 \dots(ii)$$

i. When x = 15, y = ?

\therefore Substituting x = 15 in (ii), we get

$$y \times x = 360$$

$$\therefore y \times 15 = 360$$

$$\therefore y = \frac{360}{15}$$

$$\therefore y = 24$$

ii. When y = 18, x = ?

\therefore Substituting y = 18 in (ii), we get

$$y \times x = 360$$

$$\therefore 18 \times x = 360$$

$$\therefore x = \frac{360}{18}$$

$$\therefore x = 20$$

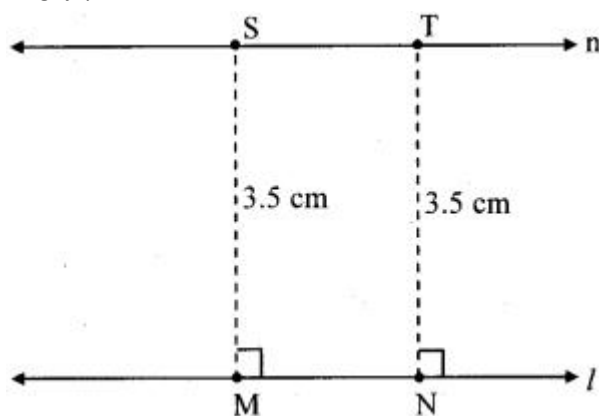
Question 5.

Draw a line l. Draw a line parallel to line l at a distance of 3.5 cm. [Chapter 2]

Solution:

Steps of construction:

1. Draw a line l and take any two points M and N on the line.
2. Draw perpendiculars to line l at points M and N.
3. On the perpendicular lines take points S and T at a distance 3.5 cm from points M and N respectively.
4. Draw a line through points S and T. Name the line as n.



Line n is parallel to line l at a distance of 3.5 cm from it.

Question 6.

Fill in the blanks in the following statement.

The number $(256)_{57}$ is __ of __ power of __. [Chapter 3]

Solution:

The number $(256)_{57}$ is 7th root of 5th power of 256.

Question 7.

Expand.

i. $(5x - 7)(5x - 9)$

ii. $(2x - 3y)^3$

iii. $(a+12)^3$ [Chapter 5]

Solution:

i. $(5x - 7)(5x - 9)$

$$= (5x)^2 + (-7 - 9) 5x + (-7) \times (-9).$$

$$\dots [\because (x + a)(x + b) = x^2 + (a + b)x + ab]$$

$$= 25x^2 + (-16) \times 5x + 63$$

$$= 25x^2 - 80x + 63$$

ii. Here, $a = 2x$ and $b = 3y$

$$(2x - 3y)^3$$

$$= (2x)^3 - 3(2x)^2(3y) + 3(2x)(3y)^2 - (3y)^3$$

$$\dots [\because (a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3]$$

$$= 8x^3 - 3(4x^2)(3y) + 3(2x)(9y^2) - 27y^3$$

$$= 8x^3 - 36x^2y + 54xy^2 - 27y^3$$

iii. Here, $A = a$ and $B = 12$

$$(a+12)^3 = (a)^3 + 3(a)^2(12) + 3(a)(12)^2 + (12)^3$$

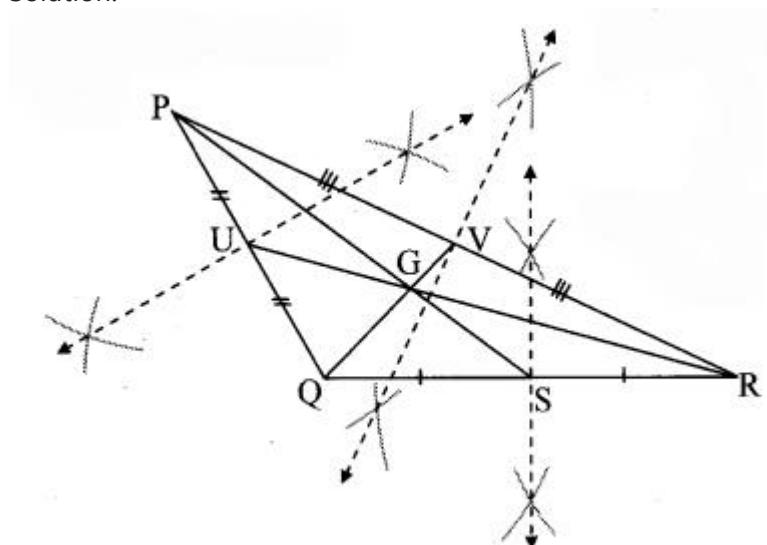
$$\dots [(A + B)^3 = A^3 + 3A^2B + 3AB^2 + B^3]$$

$$= a^3 + 3a^2 \cdot 12 + 3a \cdot 144 + 1728$$

Question 8.

Draw an obtuse angled triangle. Draw all of its medians and show their point of concurrence. [Chapter 4]

Solution:

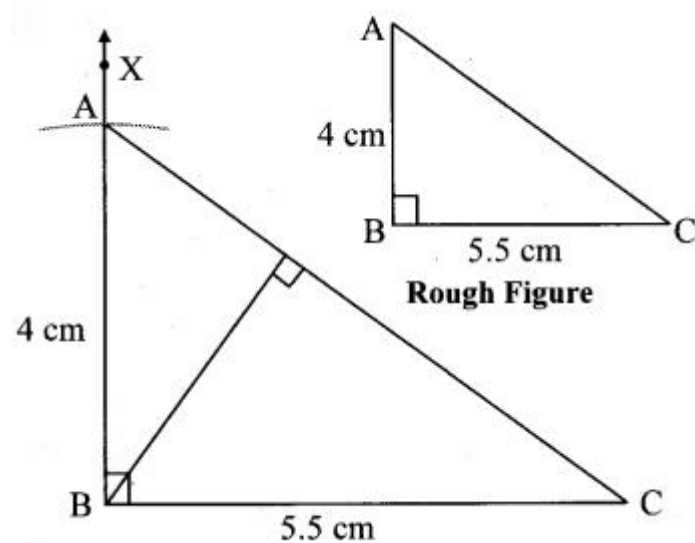


The point of concurrence of the medians PS, RU and QV is G.

Question 9.

Draw $\triangle ABC$ such that $l(BC) = 5.5$ cm, $m\angle ABC = 90^\circ$, $l(AB) = 4$ cm. Show the orthocentre of the triangle. [Chapter 4]

Solution:



Here, point B is the orthocentre of $\triangle ABC$.

Question 10.

Identify the variation and solve.

It takes 5 hours to travel from one town to the other if speed of the bus is 48 km/hr. If the speed of the bus is reduced by 8 km/hr, how much time will it take for the same travel? [Chapter 7]

Solution:

Let, v represent the speed of the bus and t represent the time required to travel from one town to the other.

The speed of the bus varies inversely with the time required to travel from one town to the other.

$$\therefore v \propto \frac{1}{t}$$

$$\therefore v = k \times \frac{1}{t}$$

where, k is the constant of variation.

$$\therefore v \times t = k \dots (i)$$

It takes 5 hours to travel from one town to the other if speed of the bus is 48 km/hr.

i.e., when $v = 48$, $t = 5$

\therefore Substituting $v = 48$ and $t = 5$ in (i), we get

$$v \times t = k$$

$$\therefore 48 \times 5 = k$$

$$\therefore k = 240$$

Substituting $k = 240$ in (i), we get

$$v \times t = k$$

$$\therefore v \times t = 240 \dots (ii)$$

Since, the speed of the bus is reduced by 8 km/hr,

\therefore Speed of the bus in second case (v)

$$= 48 - 8 = 40 \text{ km/hr}$$

\therefore When $v = 40$, $t = ?$

\therefore Substituting $v = 40$ in (ii), we get

$$v \times t = 240$$

$$\therefore 40 \times t = 240$$

$$\therefore t = \frac{240}{40}$$

$$\therefore t = 6$$

\therefore The problem is of inverse variation and the bus would take 6 hours to travel the distance if its speed is reduced by 8 km/hr.

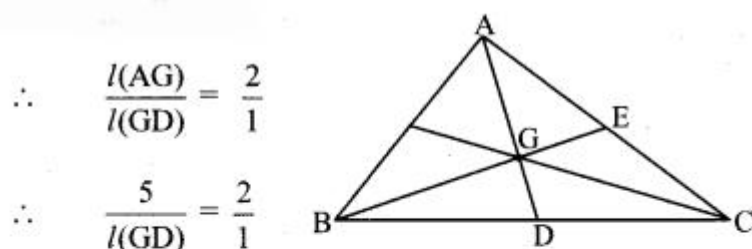
Question 11.

Seg AD and seg BE are medians of $\triangle ABC$ and point G is the centroid. If $l(AG) = 5$ cm, find $l(GD)$. If $l(GE) = 2$ cm, find $l(BE)$. [Chapter 4]

Solution:

The centroid of a triangle divides each median in the ratio 2:1.

i. Point G is the centroid and seg AD is the median.



$$\therefore \frac{l(AG)}{l(GD)} = \frac{2}{1}$$

$$\therefore \frac{5}{l(GD)} = \frac{2}{1}$$

$$\dots [\because l(AG) = 5 \text{ cm}]$$

$$\therefore 5 \times 1 = 2 \times l(GD)$$

$$\therefore l(GD) = \frac{5}{2}$$

$$\therefore l(GD) = 2.5 \text{ cm}$$

ii. Point G is the centroid and seg BE is the median.

$$\therefore \frac{l(\text{BG})}{l(\text{GE})} = \frac{2}{1}$$

$$\therefore \frac{l(\text{BG})}{2} = \frac{2}{1} \quad \dots [\because l(\text{GE}) = 2 \text{ cm}]$$

$$\therefore l(\text{BG}) \times 1 = 2 \times 2$$

$$\therefore l(\text{BG}) = 4 \text{ cm}$$

$$\text{Now, } l(\text{BE}) = l(\text{BG}) + l(\text{GE})$$

$$\therefore l(\text{BE}) = 4 + 2$$

$$\therefore l(\text{BE}) = 6 \text{ cm}$$

Question 12.

Convert the following rational numbers into decimal form. [Chapter 1]

i. $\frac{813}{13}$

ii. $\frac{117}{13}$

iii. $\frac{516}{13}$

iv. $\frac{79}{13}$

Solution:

i. $\frac{813}{13}$

$$\begin{array}{r} 0.615384 \\ 13 \overline{) 8.000000} \\ \underline{- 0} \\ 80 \\ \underline{- 78} \\ 20 \\ \underline{- 13} \\ 70 \\ \underline{- 65} \\ 50 \\ \underline{- 39} \\ 110 \\ \underline{- 104} \\ 60 \\ \underline{- 52} \\ 8 \end{array}$$

$$\therefore \frac{813}{13} = 0.615384$$

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ii. 117

$$\begin{array}{r} 1.571428 \\ 7 \overline{) 11.000000} \\ \underline{- 7} \\ 40 \\ \underline{- 35} \\ 50 \\ \underline{- 49} \\ 10 \\ \underline{- 7} \\ 30 \\ \underline{- 28} \\ 20 \\ \underline{- 14} \\ 60 \\ \underline{- 56} \\ 4 \end{array}$$

$$\therefore \frac{11}{7} = \overline{1.571428}$$

iii. 516

$$\begin{array}{r} 0.3125 \\ 16 \overline{) 5.0000} \\ \underline{- 0} \\ 50 \\ \underline{- 48} \\ 20 \\ \underline{- 16} \\ 40 \\ \underline{- 32} \\ 80 \\ \underline{- 80} \\ 0 \end{array}$$

$$\therefore \frac{5}{16} = 0.3125$$

iv. 79

$$\begin{array}{r} 0.7 \\ 9 \overline{) 7.0} \\ \underline{- 0} \\ 70 \\ \underline{- 63} \\ 7 \end{array}$$

$$\therefore \frac{7}{9} = 0.\dot{7}$$

Question 13.

Factorize.

i. $2y^2 - 11y + 5$

ii. $x^2 - 2x - 80$

iii. $3x^2 - 4x + 1$

Solution:

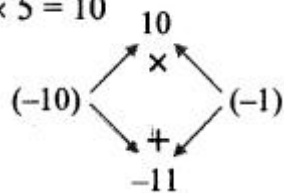
i. $2y^2 - 11y + 5$

$$= 2y^2 - 10y - y + 5$$

$$= 2y(y - 5) - 1(y - 5)$$

$$= (y - 5)(2y - 1)$$

$$2 \times 5 = 10$$

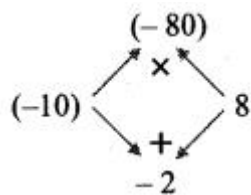


ii. $x^2 - 2x - 80$

$$= x^2 - 10x + 8x - 80$$

$$= x(x - 10) + 8(x - 10)$$

$$= (x - 10)(x + 8)$$



iii. $3x^2 - 4x + 1$

$$= 3x^2 - 3x - x + 1$$

$$= 3x(x - 1) - 1(x - 1)$$

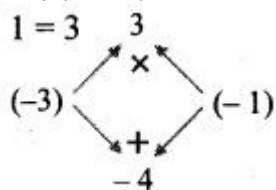
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$$= (x - 1) (3x - 1)$$

$$3 \times 1 = 3$$



Question 14.

The marked price of a T.V. set is Rs 50,000. The shopkeeper sold it at 15% discount. Find the price of it for the customer. [Chapter 9]

Solution:

Here, marked price = Rs 50,000,

discount = 15%

Let the discount percent be x

$$\therefore x = 15\%$$

i. Discount

$$= \frac{\text{Marked price} \times x}{100}$$

$$= \frac{50,000 \times 15}{100}$$

$$= 500 \times 15$$

$$= \text{Rs } 7,500$$

ii. Selling price = Marked price – Discount

$$= 50,000 - 7,500$$

$$= \text{Rs } 42,500$$

\therefore The price of the T.V. set for the customer is Rs 42,500.

Question 15.

Rajabhau sold his flat to Vasantryao for Rs 88,00,000 through an agent. The agent charged 2 % commission for both of them. Find how much commission the agent got. [Chapter 9]

Solution:

Here, selling price of the flat = Rs 88,00,000

Rate of commission = 2%

Commission = 2% of selling price

$$= \frac{2}{100} \times 88,00,000$$

$$= 2 \times 88,000$$

$$= \text{Rs } 1,76,000$$

\therefore Total commission = Commission from Rajabhau + Commission from Vasantryao

$$= \text{Rs } 1,76,000 + \text{Rs } 1,76,000$$

$$= \text{Rs } 3,52,000$$

\therefore The agent got a commission of Rs 3,52,000.

Question 16.

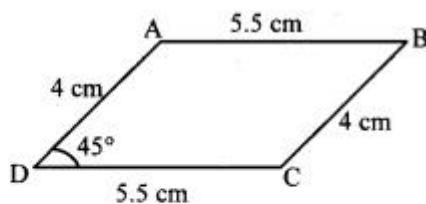
Draw a parallelogram ABCD such that $l(\overline{DC}) = 5.5$ cm, $m\angle D = 45^\circ$, $l(\overline{AD}) = 4$ cm. [Chapter 8]

Solution:

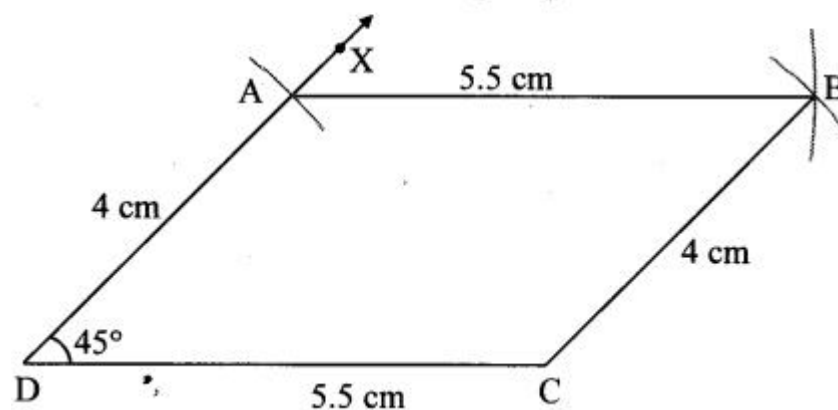
Opposite sides of a parallelogram are congruent.

$\therefore l(AD) = l(BC) = 4 \text{ cm}$ and

$l(DC) = l(AB) = 5.5 \text{ cm}$



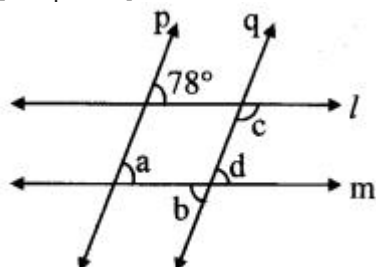
Rough Figure



Question 17.

In the figure, line $l \parallel$ line m and line $p \parallel$ line q . Find the measures of $\angle a$, $\angle b$, $\angle c$ and $\angle d$.

[Chapter 2]



Solution:

i. line $l \parallel$ line m and line p is a transversal.

$\therefore m\angle a = 78^\circ \dots(i)$ [Corresponding angles]

ii. line $p \parallel$ line q and line m is a transversal.

$\therefore m\angle d = m\angle a \dots$ [Corresponding angles]

$\therefore m\angle d = 78^\circ \dots(ii)$ [From (i)]

iii. $m\angle b = m\angle d \dots$ [Vertically opposite angles]

$\therefore m\angle b = 78^\circ \dots$ [From (ii)]

iv. line $l \parallel$ line m and line q is a transversal.

$\therefore m\angle c + m\angle d = 180^\circ \dots$ [Interior angles]

$\therefore m\angle c + 78^\circ = 180^\circ \dots$ [From (ii)]

$\therefore m\angle c = 180^\circ - 78^\circ$

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- Arjun

- Digvijay

$$\therefore m\angle c = 102^\circ$$

$$\therefore m\angle a = 78^\circ, m\angle b = 78^\circ, m\angle c = 102^\circ, m\angle d = 78^\circ$$

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