

**RD SHARMA**

**Solutions**

**Class 7 Maths**

**Chapter 1**

**Ex 1.1**

**Q1) Determine each of the following products:**

(i)  $12 \times 7$

**Solution:**

We have,

$$12 \times 7 = 84 \quad \text{[The product of two integers of like signs is equal to the product of their absolute value]}$$

(ii)  $(-15) \times 8$

**Solution:**

We have,

$$\begin{aligned} &(-15) \times 8 && \text{[ The product of two integers of opposite} \\ &= (-15 \times 8) && \text{signs is equal to the additive inverse of the} \\ &= -120 && \text{product of their absolute values]} \end{aligned}$$

(iii)  $(-25) \times (-9)$

**Solution:**

We have,

$$\begin{aligned} &(-25) \times (-9) \\ &= +(25 \times 9) \\ &= 225 \end{aligned}$$

(iv)  $(125) \times (-8)$

**Solution:**

We have,

$$\begin{aligned} &(125) \times (-8) \\ &= -(125 \times 8) \\ &= -1000 \end{aligned}$$

**Q2) Find each of the following products:**

(i)  $3 \times (-8) \times 5$

**Solution:**

We have,

$$\begin{aligned} &3 \times (-8) \times 5 \\ &= -(3 \times 8) \times 5 \\ &= (-24) \times 5 \\ &= -(24 \times 5) \\ &= -120 \end{aligned}$$

(ii)  $9 \times (-3) \times (-6)$

**Solution:**

We have,

$$\begin{aligned} &9 \times (-3) \times (-6) \\ &= -(9 \times 3) \times (-6) \\ &= (-27) \times (-6) \\ &= +(27 \times 6) \end{aligned}$$



1
2
3
4

Is the multiplication table symmetrical about the diagonal joining the upper left corner to the lower right corner?

**Solution:**

Second number

X	-4	-3	-2	-1	0	1	2	3	4
-4	16	12	8	4	0	-4	-8	-12	-16
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>First number</b> </div>	12	9	6	3	0	-3	-6	-9	-12
-3									
-2	8	6	4	2	0	-2	-4	-6	-8
-1	4	3	2	1	0	-1	-2	-3	-4
0	0	0	0	0	0	0	0	0	0
1	-4	-3	-2	-1	0	1	2	3	4
2	-8	-6	-4	-2	0	2	4	6	8
3	-12	-9	-6	-3	0	3	6	9	12
4	-16	-12	-8	-4	0	4	8	12	16

**Q5) Determine the integer whose product with '-1' is**

**(i) 58**

**Solution:**

$$58 \times (-1) = -(58 \times 1)$$

$$= -58$$

**(ii) 0**

**Solution:**

$$0 \times (-1) = 0$$

**(iii) -225**

**Solution:**

$$(-225) \times (-1) = +(225 \times 1)$$

$$= 225$$

**Q6) What will be the sign of the product if we multiply together**

**(i) 8 negative integers and 1 positive integer?**

**(ii) 21 negative integers and 3 positive integers?**

**(iii) 199 negative integers and 10 positive integers?**

**Solution:**

(i) Positive  $\because [-ve \times -ve = +ve]$

(ii) Negative  $\because [-ve \times +ve = -ve]$

(iii) Negative

**Q7) State which is greater:**

**(i)  $(8 + 9) \times 10$  and  $8 + 9 \times 10$**

**Solution:**

$$(8 + 9) \times 10 = 17 \times 10 = 170 \quad 8 + 9 \times 10 = 8 + 90 = 98 \quad (8 + 9) \times 10 > 8 + 9 \times 10$$

**(ii)  $(8 - 9) \times 10$  and  $8 - 9 \times 10$**

**Solution:**

$$(8 - 9) \times 10 = -1 \times 10 = -10 \quad 8 - 9 \times 10 = 8 - 90 = -82 \quad (8 - 9) \times 10 > 8 - 9 \times 10$$

**(iii)  $((-2) - 5) \times -6$  and  $(-2) - 5 \times (-6)$**

**Solution:**

$$((-2) - 5) \times -6 = (-7) \times (-6) \\ = (7 \times 6)$$

$$= 42$$

$$(-2) - 5 \times (-6) = -2 + (5 \times 6)$$

$$= 30 - 2$$

$$= 28$$

Therefore,  $((-2) - 5 \times (-6)) > (-2) - 5 \times (-6)$

**Q8) (i) If  $a \times (-1) = -30$ , is the integer a positive or negative?**

**Solution:**

When multiplied by 'a' negative integer, a gives a negative integer. Hence, 'a' should be a positive integer.

$$a = 30$$

**(ii) If  $a \times (-1) = 30$ , is the integer a positive or negative?**

**Solution:**

When multiplied by 'a' negative integer, a gives a positive integer. Hence, 'a' should be a negative integer.

$$a = -30$$

**Q9) Verify the following:**

**(i)  $19 \times (7 + (-3)) = 19 \times 7 + 19 \times (-3)$**

**Solution:**

$$\text{L.H.S} = 19 \times (7 + (-3))$$

$$= 19 \times (7 - 3)$$

$$= 19 \times 4$$

$$= 76$$

$$\text{R.H.S} = 19 \times 7 + 19 \times (-3)$$

$$= 133 - 57$$

$$= 76$$

Therefore, L.H.S = R.H.S

$$(ii) (-23)[(-5) + (+19)] = (-23) \times (-5) + (-23) \times (+19)$$

**Solution:**

$$\text{L.H.S} = (-23)[(-5) + (+19)]$$

$$= (-23)[-5 + 19]$$

$$= (-23)[14]$$

$$= -322$$

$$\text{R.H.S} = (-23) \times (-5) + (-23) \times (+19)$$

$$= 115 - 437$$

$$= -322$$

Therefore, L.H.S = R.H.S

**Q10) Which of the following statements are true?**

*(i) The product of a positive and a negative integer is negative.*

*(ii) The product of three negative integers is a negative integer.*

*(iii) Of the two integers, if one is negative, then their product must be positive.*

*(iv) For all non-zero integers a and b,  $a \times b$  is always greater than either a or b.*

*(v) The product of a negative and a positive integer may be zero.*

*(vi) There does not exist an integer b such that for  $a > 1$ ,  $a \times b = b \times a = b$ .*

**Solution:**

(i) True

(vi) True

(ii) True

(iii) False

(iv) False

(v) False