Worksheet -9 Subject: - Mathematics Class: - VII Teacher: - Ms. Neeru

Name: _____ Class & Sec: _____ Roll No. _____ Date: 01.05.2020

Ex1.3 Q6-9, Ex1.4. Q 1-3

Ex 1.3, 6 teachoo.com

A certain freezing process requires that room temperature be lowered from 40°C at the rate of 5°C every hour. What will be the room temperature 10 hours after the process begins?

Initial temperature = 40°C

Room temperature decreases at 5°C per hour

∴ Temperature change in 1 hour = −5°C

Temperature change in 10 hours = −5 × 10°C

= −50°C

∴ Room temperature after 10 hours = Initial temperature + Temperature change in 10 hour

= 40 + (−50)

= 40 − 50

= −(−40 + 50)

= − (50 − 40)

= −10°C

∴ Room temperature after 10 hours = **−10°C**

Ex 1.3, 7

In a class test containing 10 questions, 5 marks are awarded for every correct answer and (–2) marks are awarded for every incorrect answer and 0 for questions not attempted.

(i) Mohan gets four correct and six incorrect answers. What is his score?

Total questions = 10

Marks for correct answer = +5

Marks for incorrect answer = –2

Marks for no attempt = 0

Marks for 4 correct answers = 4 × 5

= 20

Marks for 6 incorrect answers = 6 × (–2)

= –12

Therefore,

Total marks = 20 + (–12)

= 20 – 12

= **8**

Ex 1.3, 7

In a class test containing 10 questions, 5 marks are awarded for every correct answer and (–2) marks are awarded for every incorrect answer and 0 for questions not attempted.
(ii) Reshma gets five correct answers and five incorrect answers, what is her score?

Marks for 5 correct answers = 5 × 5

= 25

Marks for 5 incorrect answers = 5 × (–2)

= –10

Therefore,

Total marks = 25 + (–10)

= 25 – 10

= **15**

Ex 1.3, 7

In a class test containing 10 questions, 5 marks are awarded for every correct answer and (–2) marks are awarded for every incorrect answer and 0 for questions not attempted.
(iii) Heena gets two correct and five incorrect answers out of seven questions she attempts. What is her score?

Marks for 2 correct answers = 2 × 5 = 10

Marks for 5 incorrect answers = 5 × (–2) = –10

Marks for 3 no attempts = 3 × 0 = 0

∴ Total marks = 10 + (–10) + 0

= 10 – 10 + 0

= **0**

Ex 1.3, 8

A cement company earns a profit of Rs 8 per bag of white cement sold and a loss of Rs 5 per bag of grey cement sold.
(a) The company sells 3,000 bags of white cement and 5,000 bags of grey cement in a month. What is its profit or loss?

Profit on white cement = Rs +8

Loss on grey cement = Rs −5

Profit on 1 bag of white cement = Rs 8

Profit on 3000 bags of white cement = Rs 8 × 3000

= Rs 24000

Loss on 1 bag grey cement = Rs −5

Loss on 5000 bags grey cement = Rs −5 × 5000

= Rs − 25000

Total profit / loss = Total profit + Total loss

= 24000 + (−25000)

= 24000 − 25000

= −(−24000 + 25000)

= −(25000 − 24000)

= −1000

∴ Total loss of **Rs 1000**

Ex 1.3, 8

A cement company earns a profit of Rs 8 per bag of white cement sold and a loss of Rs5 per bag of grey cement sold.
(b) What is the number of white cement bags it must sell to have neither profit nor loss, if the number of grey bags sold is 6,400 bags.

Loss on 1 bag grey cement = Rs −5

Loss on 6400 bag grey cement = Rs −5 × 6400

= Rs −32000

$$\begin{array}{r} {\scriptstyle 2} \\ 6400 \\ \times \quad 5 \\ \hline 32000 \end{array}$$

Let number of bags of white cement = x

Profit on 1 bag white cement = Rs 8

Profit on **x** bags white cement = Rs 8x

Now,

Total profit/loss = 0

Total profit + Total loss = 0

8x + (−32000) = 0

8x − 32000 = 0

8x = 32000

$$x = \frac{32000}{8}$$

x = 4000

∴ Number of bags of white cement = **x = 4000**

EXERCISE 1.4

1. Evaluate each of the following:

(a) $(-30) \div 10$ (b) $50 \div (-5)$ (c) $(-36) \div (-9)$

(d) $(-49) \div (49)$ (e) $13 \div [(-2) + 1]$ (f) $0 \div (-12)$

(g) $(-31) \div [(-30) + (-1)]$

(h) $[(-36) \div 12] \div 3$ (i) $[(-6) + 5)] \div [(-2) + 1]$

2. Verify that $a \div (b + c) \neq (a \div b) + (a \div c)$ for each of the following values of a, b and c.

(a) $a = 12, b = -4, c = 2$ (b) $a = (-10), b = 1, c = 1$

3. Fill in the blanks:

(a) $369 \div$ _____ $= 369$ (b) $(-75) \div$ _____ $= -1$

(c) $(-206) \div$ _____ $= 1$ (d) $-87 \div$ _____ $= 87$

(e) _____ $\div 1 = -87$ (f) _____ $\div 48 = -1$

(g) $20 \div$ _____ $= -2$ (h) _____ $\div (4) = -3$

INTEGERS EXERCISE 1.4

Question 1:

Evaluate each of the following:

(a) $(-30)\div 10$ (b) $50\div(-5)$

(c) $(-36)\div(-9)$ (d) $(-49)\div(49)$

(e) $13\div[(-2)+1]$ (f) $0\div(-12)$

(g) $(-31)\div[(-30)+(-1)]$

(h) $[(-36)\div 12]\div 3$ (i) $[(-6)+5)]\div[(-$

Answer 1:

(a) $(-30) \div 10 = -3$

(b) $50 \div (-5) = -10$

(c) $(-36) \div (-9) = 4$

(d) $(-49) \div 49 = -1$

(e) $13 \div [-2 + 1] = 13 \div [-1] = -13$

(f) $0 \div (-12) = 0$

(g) $(-31) \div [(-30) + (-1)] = (-31) \div (-31)$

(h) $[(-36) \div 12] \div 3 = [-3] \div 3 = -1$

(i) $[-6 + 5] \div [-2 + 1] = (-1) \div (-1) = 1$

Question 2:

Question 2

Verify that a ÷ (b + c) ≠ (a ÷ b) + (a ÷ c) for each of the following values of a, b and

(a) a = 12, b = –4, c = 2 (b) a = (–10), b = 1, c =1

Answer 2:

(a) Given: a ÷ (b + c) ≠ (a ÷ b) + (a ÷ c)

a = 12, b = –4, c = 2

Putting the given values in L.H.S. $= 12 \div (-4+2)$

$$= 12 \div (-2) = 12 \div \left(\frac{-1}{2}\right) = \frac{-12}{2} = -6$$

Putting the given values in R.H.S. $= \left[12 \div (-4)\right] + (12 \div 2)$

$$= \left(12 \times \frac{-1}{4}\right) + 6 = -3 + 6 = 3$$

Since, L.H.S. ≠ R.H.S.

Hence verified.

(b) Given: a ÷ (b + c) ≠ (a ÷ b) + (a ÷ c)

a = –10, b = 1, c =1

Putting the given values in L.H.S. = – 10 ÷ (1 + 1)

= – 10 ÷ (2) = –5

Putting the given values in R.H.S. = [–10 ÷ 1] + (–10 ÷ 1)

= –10 –10 = – 20

Since, L.H.S. ≠ R.H.S.

Hence verified.

Question 3:

Fill in the blanks:

(a) $369 \div \_\_\_\_ = 369$ (b) $(-75) \div \_\_\_\_ = -1$

(c) $(-206) \div \_\_\_\_ = 1$ (d) $-87 \div \_\_\_\_ = 87$

(e) $\_\_\_\_ \div 1 = -87$ (f) $\_\_\_\_ \div 48 = -1$

(g) $20 \div \_\_\_\_ = -2$ (h) $\_\_\_\_ \div (4) = -3$

Answer 3:

(a) $369 \div \underline{1} = 369$

(b) $(-75) \div \underline{75} = -1$

(c) $(-206) \div \underline{(-206)} = 1$

(d) $-87 \div \underline{(-1)} = 87$

(e) $\underline{(-87)} \div 1 = -87$

(f) $\underline{(-48)} \div 48 = -1$

(g) $20 \div \underline{(-10)} = -2$

(h) $\underline{(-12)} \div (4) = -3$