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Class: VII
Subject: Math's
Topic: Integers
No. of Questions: 20

Q.1 Fill in the blanks:

a)(-19) x 7 x 0 x (-5) x 2=_____

b)(-5) x 10 x (-100)=_____

c)_____ is the identity element of multiplication.

d) Additive inverse of -2001 is _____

Solution: a) 0   b) 5000   c) 1   d) 2001

Q.2 Subtract -134 from the sum of 38 and -87

Solution: 85

[Explanation: 38 + (-87)=38 – 87=-49
              Now, -49-(-134)
              = -49+134=85]

Q.3 Simplify 15 x (-32) + 15 x (-18)

Solution: -750

[Explanation: 15 x (-32) + 15 x (-18)
              = 15 x [-32 + (-18)]
              = 15 x [-32 – 18]
              = 15 x (-50)=-750]

Q.4 In a class test containing 20 questions, 4 marks are given for every correct answer and (-2) marks for every incorrect answer. A student attempts all questions and 12 of her answers are correct. What is her total score?

Solution: 32

[Explanation: Marks given for 1 correct answer= 4

Marks given for 12 correct answers= 12 x 4=48
Marks given for 1 incorrect answer= -2
Marks given for (20-12) incorrect answers= (-2) x (20-12)= (-2) x 8= -16
Total score= 48 +(-16)= 48-16=32]

Q.5 Solve (-70) x (10-5-22-83)

Solution: 7000
[Explanation: (-70) x (10-5-22-83)
    =(-70) x (10-110)
    = (-70) x (-100)=7000]

Q.6 Find the product of (-4) x (-5) x (-8) x (-10)

Solution: 1600

[Explanation: (-4) x (-5) x (-8) x (-10)
    = [(-4) x (-5)] x [(-8) x (-10)]
    = 20 x 80=1600]

Q.7 A certain freezing process requires that room temperature to be lowered from 40^0 C at the rate of 5^0 C every hour. What will be the room temperature 12 hours after the process begins?

Solution: -20^0 C

[Explanation: Temperature after 1 hour= $(40-5)^0$ C
    Temperature after 12 hours= $(40-5 \times 12)^0$ C
                = $(40-60)^0$ C=-20^0 C]

Q.8 Compare 18 x (-3)+21 and 18 x [(-3) + 21]

Solution: 18 x (-3)+21 __<___ 18 x [(-3) +21]

[Explanation: LHS: 18 x (-3)+21= -54+ 21=-33
    RHS: 18 x [(-3) +21]= 18 x 18= 324
    324>-33
    18 x [(-3) +21] > 18 x (-3)+21]

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Q.9 (-23) x 48=?

Solution: -1104

[Explanation: (-23) x 48
=(-23) x [50-2]
= (-23) x 50 - (-23)x (2)
= -1150 +46=-1104]

Q.10 Compute 242 x (-95) + 242 x (-4) -242

Solution: -24200

[Explanation: 242 x (-95) + 242 (-4) -242
= 242 x [(-95) +(-4) -1]
= 242 x [-100]=-24200]

Q.11 Put the appropriate sign:

a)16÷(-4) =_____ 4

b) (-105)÷(-7)=_____15

c) (+25) ÷ (-25)=____1

d) (-21) ÷ (+39)=____7

Solution: a) -   b) +   c) -   d) –

Q.12 Verify that a÷(b+c)≠ (a÷b) + (a÷c) for a=12, b=-4, c=2

Solution: -6≠3

[Explanation: a÷(b+c)=12 ÷ (-4+2)
12 ÷ (-2)= -6
(a÷b)+(a÷c)=[12÷(-4)] + (12÷2)=-3+6=3
-6≠3]

Q.13 Evaluate 13÷ [(-2)+1]

Solution: -13

[Explanation: 13÷ [(-2)+1]
            =13÷(-1)=-13]

Q.14 [(-6)+5] ÷ [(-2) + 1]=?

Solution: 1

[Explanation: [(-6)+5] ÷ [(-2) +1]
            = (-1) ÷ (-1)=1]

Q.15 Find the value of [(-36) ÷ 12]÷ 3

Solution: -1

[Explanation: [(-36) ÷ 12] ÷ 3
            = -3÷3=-1]

Q.16 Compare (-31)÷[(-30)+(-1)] and [(-31) ÷ (-31)]+(-1)

Solution: (-31)÷[((-30)+(-1)] __>__ [(-31)÷(-31)]+(-1)

[Explanation: LHS: (-31)÷[(-30) +(-1)]
            = (-31)÷[(-30)+(-1)]= (-31)÷ [(-30-1)]
            =(-31)÷(-31)=1

            RHS: [(-31)÷(-31)]+(-1)= 1+(-1)=0
            1>0
            LHS>RHS]

Q.17 ? ÷ (-18)=-5

Solution: 90

[Explanation: Let the required number be x
            x ÷ (-18)= -5
            x= -5 x (-18)= 90]

Q.18 An elevator descends into a mine shaft at the rate of 6m/min. If the descent starts from 20m above the ground level, how long will it take to reach -370m?

Solution: 1 hour 5 min

[Explanation: Let the point O denotes the ground level
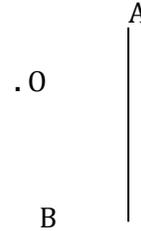
Then, OA= 20m and OB=-370m

AB=|OA-OB|

=|20-(-370)= |20+370|=390m

Distance covered= 390m

Rate of descent= 6m/min

Time taken= 390/6=65 min= 1 hr 65 min]

Q.19 A shopkeeper gains Re.1 on each pen and loses 40 paise on each pencil. He sells 45 pens and some pencils losing Rs. 5 in all. How many pencils does he sell?

Solution: 125

[Explanation: Suppose he sells x pencils

Total gain on pens= Rs.45

Total loss on pencils= Rs. 40x/100= Rs. 2x/5

$45-\dfrac{2x}{5}=-5$

$\dfrac{2x}{5}=(45+5)$

2x= 50 x 5

x= 125]

Q.20 Write 5 pairs of integers (a,b) such that a÷b=-3

Solution: (6,-2); (-6,2); (-3,1); (3,-1); (-12,4)

[Explanation: 6÷(-2)=-3

(-6)÷2= -3

(-3)÷1=-3

3÷(-1)=-3

(-12)÷4=-3]

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