Worksheet-1
Integers, Fractions,Linear Equation, Algebraic Expression

Full marks - 50.

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1) If a = -8 , b = -7 and c = 6.

   Verify that: (a+b)+c = a+(b+c).   *(2)*

2) Find the additive inverse of: *(2)*
   a) -200
   b) 35

3) Write the pair of integers whose sum gives:
   (3)
   a) An integer smaller than both the integers
   b) An integer greater than both the integers
   c) An integer smaller than only one of the integers.

4) What will be the sign of the product of 115 negative integers and 20 positive integers.   *(1)*

5) Simplify: (-16) × (-15) + (-16) × 5.   *(1)*

6) Fill in the blanks: (5)

    a) $\{(-5)\times3\} \times (-6) = (\text{.........}) \times \{3\times(-6)\}$

    b) $3 \div 0 = \text{..........}$

    c) $0 \div 54 = \text{.........}$

    d) $(-119) \div 17 = \text{.........}$

    e) $(-9) - (-6) = \text{.........}$

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7) Simplify: (3×2 = 6)
    a) $(x^4 + 1/x^4) (x + 1/x)$
    b) $4st(s-t) - 6s^2(t-t^2) - 3t^2(2s^2-s) + 2st(s-t)$
    c) $(3x^2 + 5x - 7)(x-1) - (x^2 - 2x + 3)(x + 4)$

8) Using the column method multiply.   (2)

    $(5x^2 - 6x + 9)$ by $(2x - 3)$.

9) Multiply - $8/21 \ x^2y^3$ by -$7/16 \ xy^3$ by - $7/16 \ xy^2$ and verify
    your result when x = 3 and y = 2.   (2)

10) $(9x+7)/2 - \{X - (x-2)/7\} = 36.$ **(3)**

11) 50 kg of an alloy of lead and tin contains 60% of lead. How much lead must be melted into it to make an alloy contain 75% of lead. **(3)**

12) Five years ago a man was seven times as old as his son. Five years hence, the father will be three times as old as his son. Find their present ages. **(3)**

13) A labourer is engaged for 20 days on the condition that he will receive ₹120 for each day he works and will be fined ₹10 for each day he is absent. If he receives ₹1880 in all for how many days did he remain absent? **(3)**

14) A number consists of two digits whose sum is 8. If 18 is added to the number, its digits are reversed. Find the number. **(3)**

15) Martin's school is 10 miles away from his home. His father drops him in a car at a point which is 2 miles away from his home and he covers the rest of the distance by public transport. Find what fraction of distance did Martin cover by public transport? (3)

16) Darvin played for a total of 60 minutes. He spent one fifth of the total time playing chess and the rest of the time playing a video game. How many minutes did Darvin play the video game? (2)

17) Mr Holmes can drive a car route in ⅝ hours. It takes Mr Watson ⅓ of the time it takes Mr Holmes. What fraction of an hour does it take for Mr Watson to drive the route. (2)

18) Do the following: (3)
    a) Divide 21/28 ÷ 32/40
    b) Is 15/105 a simplified fraction? If not, reduce it to a simplified fraction.
    c) Change 0.009 into a fraction.