International Indian School Riyadh
VIII Std Worksheet, 2015 – 2016

MATHEMATICS SA1

LINEAR EQUATIONS IN ONE VARIABLE WORKSHEET VIII   (Page 2)

1. Solve the following equations

a. $(b-2) \times 4 = 8$

b. $2y+1 = 1$

c. $5x-5 = 15$

d. $6n = 24$

e. $4(m-9) = 12$

f. $(5x-6)/2 = 7$

g. $m+2 = -7$

h. $7+ (3m/4) = -2$

i. $0.5x+7.5 = 11.5$

j. $3a-3.25 = 5.75$

k. $(10y+1.5)/6 = 1.5$

l. $(x/1.6) + 2.8 = 8.8$

m. $5(y-2) +(y-3) = 2(2y+1) -9$

n. $(m-1)/2 - (m-2)/3 = (m-4)/7$

o. $(3x+4)/(2-6x) = -2/5$

p. $(5a-7)/(3a+1) = 4/5.$

q. $\dfrac{6}{2m-(3-4m)} = 2/3$

r. $\dfrac{9z-8}{4z+5}$ = 5/3

s. (7a-6) / 3 = (3a+1) /2

t. $\dfrac{2(4x-1)}{3}$ -- 2x – (1+x)/3 = $\dfrac{x+4}{3}$

u. (x - 2) / 8 – (x - 4) / 7 = (2x-3)/12 – $2\dfrac{3}{4}$

2. The sum of three consecutive multiples of 7 is 84. Find the three multiples. (Ans :21, 28, 35)

3. The perimeter of a rectangle is 62cm.If the length is 5cm more than the breadth, Find the length and breadth. (Ans : l = 18cm, b = 13cm)

4. The denominator of a fraction is 7 more than the numerator. If 1 is added to the numerator and 6 is added to the denominator, the value of the fraction will be ½.Find the numerator and the denominator.

(Ans :11/18)

5. The ratio of two numbers is 2:3.If both the numbers are increased by 8 their ratio becomes 10:13.Find the numbers. (Ans :12 and 18)

6. The length of a rectangle is 7 cm more than its breadth. If the perimeter is 62cm.Find the length and breadth. (Ans :19cm and 12cm)

7. Ameen's age is one fifth of his father's age. After 6 years his age will be one third of his father's age. How old are they now.

(Ans :6 years and 30 years)

8. Mother's age is 6 times Amal's age and grandmother's age is twice mother's age. After 5 years the sum of their ages will be 120 years. Find the present age.

9. The sum of 5 consecutive odd numbers' is 135.Find the numbers.

(Ans :23, 25, 27, 29, 31)

10. The ages of Reena and Neema are in the ratio of 5:6.Five years from now their ages will be in the ratio of 6:7.Find their present age.

11. Femina's mother is 22 years younger than Femina's grandmother and 27 years older than Femina.The sum of their ages are 121 years. Find their present ages. (Ans :15, 42, 64)

12. Two numbers are in the ratio of 7:5.If they differ by 16.What are the numbers.

(Ans :56, 40)

13. Three consecutive integers are such that when they are taken in increasing order and multiplied by 3,4and 5 respectively, they add up to 386.Find these numbers.

(Ans :31, 32, 33)

14. The angles of a triangle are 3x, (2x + 20) and (5x – 40).Find the angles.

15. One angle of a triangle is equal to the sum of other two. If the ratio of other two angles are 7:8.Find the angles of the triangle. (Ans :90, 42, 48)

Rational Numbers
1) Using appropriate properties find
   a) -3/4 × 2/3+2/7×-14/8-5/6×3/4
   b)-7/8×2/3-1/4×3/5+4/5×7/8

2) Fill in the blanks and state the property.
 a) -2/9 ÷-2/9=_____   b) 11/7÷_____=-1
 c) -3/4 × _____= -9/5× -3/4   d)-3/13× _____=0× -3/13
 e) 7/15×_____=7/15   f)4/3+0 = ------
 g) 2/3+5/7=5/7+____   h)(-3/4 + 1/2)+1/6=-3/4+(1/2+_____)
 i) (-2/9×3/5) + (-2/9×7/11) = -2/9×(3/5___)

3) Find the additive inverse of
   a) 3/7   b)-5/-11   c)-3/7 × 5/-4   d) 8/-9

4) Find `x`
   a) 2/7+ x = 5/4   b)-1/8+x=11/72   c)-7/8×x=-1/2

5) Write the multiplicative inverse of the following rational numbers
   a)-2/5 × -3/8   b) 5   c)-19/12   d) -6/-19

6) Verify that-(-x) =x if
   a) x=-7/8   b) 8/17

7) Is 0.21 the multiplicative inverse of 4 16/21?

8) Is 33 1/3 the multiplicative inverse of 0.03?

9) Draw a number line and represent the following:
   a)-7/8   b)8/3 and -8/3   c)-11/6   d)10/4

10) Find 5 rational numbers between
    a) 1/4 and7/8   b) 0 and 2   c)-7 and -8   d)-7/9 and 1/9

11) Write any 10 rational numbers less than
     a) +1   b)-3/8

Squares and Square roots

1. How many natural numbers lie between:

   a. $(13)^2$ and $(14)^2$ b. $(2001)^2$ and $(2002)^2$

2. without adding find sum

           A) 1+3+5+7+9+11

           B) 1+3+5+7+9+11+13+15+17+19+21

3. Find the squares using the given pattern.

        45^2 = (4 x 5) x 100+25

        a) 65   b) 85

4) Write Pythagorean triplet whose one member is:

           a) 20   b) 12

5) Find the square using $(a+b)^2$ = (a+b) (a+b).

           a) 42   b) 87

6) Find the sq. root by prime factorization.

           a) 11025   b) 8469   c) 17956

7) Find the value using the property of sq.

    a) $89^2 - 88^2$ b) $121^2 - 120^2$

8) Find the sq. root by long division method.

    a) 961   b) 3364   c) 7225   d) 7396   Page - 4

9) Find the least number of 5 digits which is a perfect sq.

10) Find the least square number exactly divisible by each of the

    number: 7, 16, and 21

11) Find the smallest number that should be

    (a) multiplied

    (b) divided so that the following numbers become a perfect

        sq. .Also find the sq. root of the number obtained.

      a) 2475   b) 720   c) 600   d) 2448

12) Find the least number which must be:

    (a) subtracted

    (b) added to the following numbers to make them a perfect sq.

      also find the sq. root of the no: obtained.

      a)7671   b)2361   c)5678

13) 9604 soldiers are arranged in an auditorium in such a way that there are as many soldiers in a row as there are in a column. How many rows and columns are there in the auditorium?

14) In a right angled triangle, PQR, angle Q = 90^0 if

      a) PQ=9 cm; QR =40 cm and find PR

      b) PR =37 cm: PQ=12cm, find QR