Question Bank for grade 8

Q1. Encircle the correct answer. Choose only one option for each statement.

1. Linear equation in one variable has

   a) only one variable with any power

   b) only one term with a variable

   c) only one variable with power one

   d) only constant term

2. If $\frac{x}{3} + \frac{x}{2} = 5$,the value of x is

   a) 10

   b) 5

   c) 30

   d) 6

3. Expanded form of 3x (2x + 8y) is

   a) $5x^2 + 11xy$

   b) $6x + 24y$

   c) $6x^2 + 24y$

   d) $6x^2 + 24xy$

4. Data represented using circles is known as

   a) bar graph

   b) histogram

   c) pie chart

   d) pictograph

5. Identify the point which does not lie on the line y = -7

   a) (0, -7)

   b) (-3, -7)

   c) (-7, 0)

   d) (3, -7)

6. Which of the following is correct?

   a) $(a - b)^2 = a^2 + 2ab + b^2$

   b) $(a-b)^2 = a^2 - b^2$

   c) $(a-b)^2 = a^2 - 2ab + b^2$

   d) $(a-b)^2 = a^2 + 2ab - b^2$

7. Area of rectangle with length 4ab and breadth $6b^2$ is

   a) $24a^2b^2$

   b) $24ab^3$

   c) $24ab^2$

   d) $24a^2b$

8. The roots of $(x + 1)(x - 3) = 0$ are

   a) 3 or 1

   b) -3 or -1

   c) -3 or 1

   d) 3 or -1

9. A model of a house is 15 cm long. If the actual length of the house is 12 cm, the model's scale is

   a) 1 cm: 0.2 m

   b) 1 cm: 0.4 m

   c) 1 cm : 0.5 m

   d) 1 cm : 0.8 m

10. 1 hour = _____ sec

    a) 60 sec

    b) 120 sec

    c) 60 x 60 sec

    d) 160 sec

Q2. Fill in the blanks:

1. $\dfrac{38x^3y^2z}{19\ xy^2}$ is equal to _____.

2. Factorized form of $4y^2 - 12y + 9$ is _____.

3. Simplified form of $\dfrac{3x + 3}{3}$= _____.

4. The _____ is an average that occurs most frequently in the data.

5. The representative fraction of scale 1: 2000 is _____.

6. $a^2 - b^2$ = _____.

7. Evaluate $(49)^2 = (\ \ )^2 - 2(\ \ )(\ \ )+(\ \ )^2$.

8. Slope of the line $y = c$ is _____.

9. Evaluate 49 x 51= _____ (___ + ___) (___ - ___) _____ .

10. Slope of the line _____ is ∞ .

Q3. Solve the following.

a) If $\dfrac{1}{3} = \dfrac{x}{6}$ find x.

b) Find the mode of the following set of data
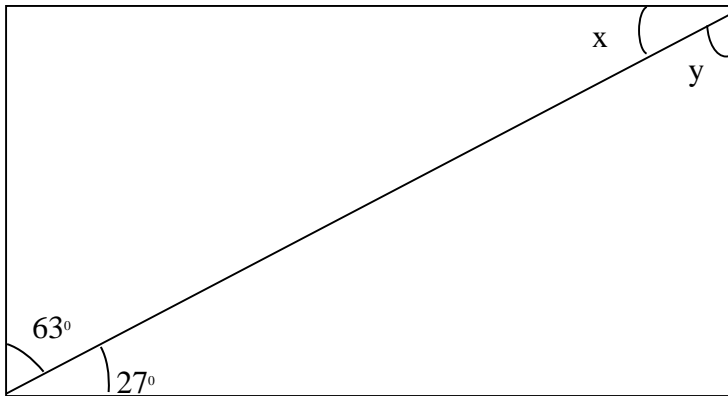

c) For 4y + x =2, find m=?

d) Express $\dfrac{1}{3x} + \dfrac{2}{x}$ as a single fraction in its simplest form

e) Make a the subject of the formula $c = a - \dfrac{b}{a}$

f) Find unknowns

Q4. Do as directed

1) Expand

a) $(5x - 9y)^2$ by using identity
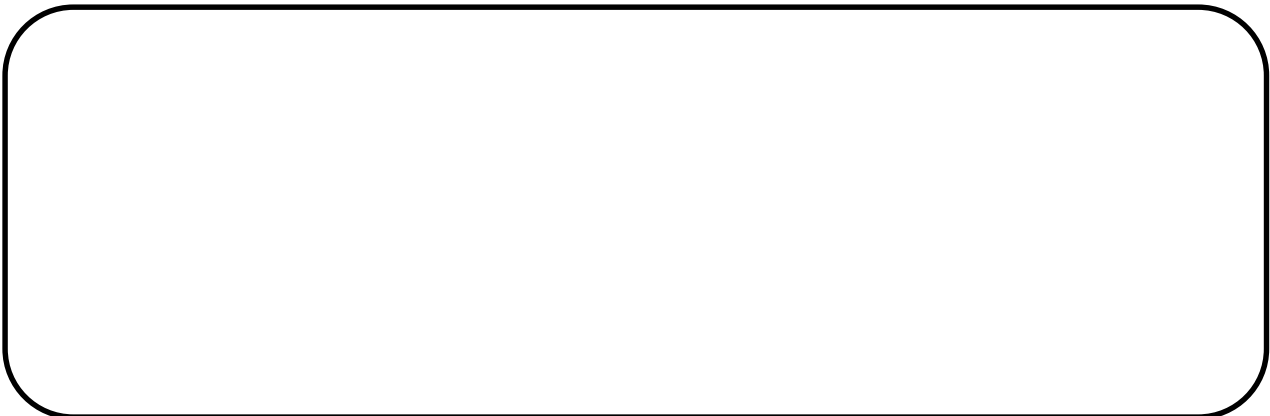
b) $(7 - 2x)(4 + x)$

2) Simplify

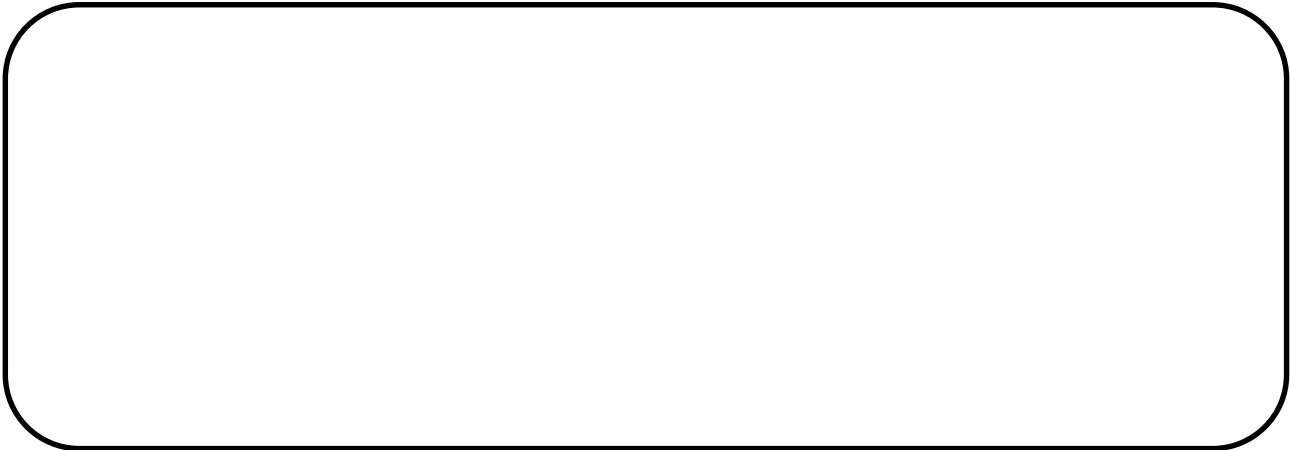a) $\dfrac{a + 3b}{2a} + \dfrac{a - b}{6a} - \dfrac{2b + a}{3a}$

b) $\dfrac{x^2 - 9}{x + 3}$
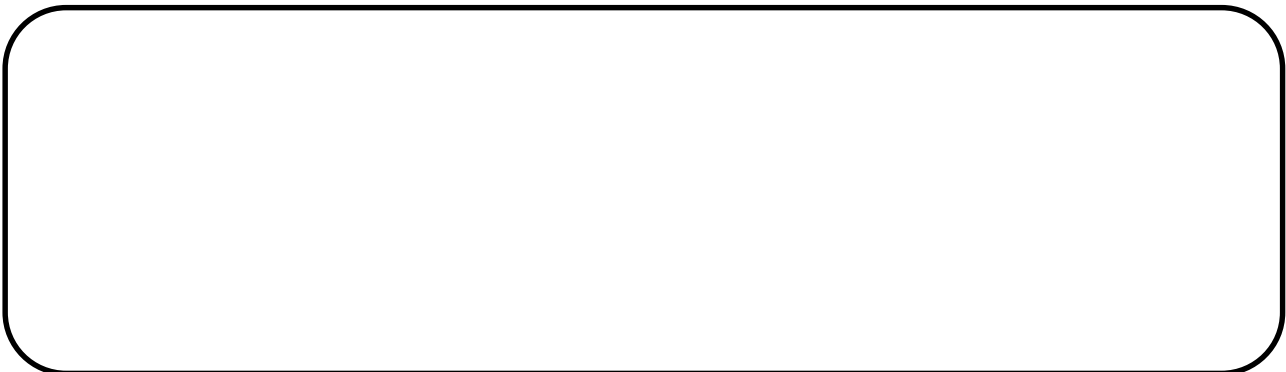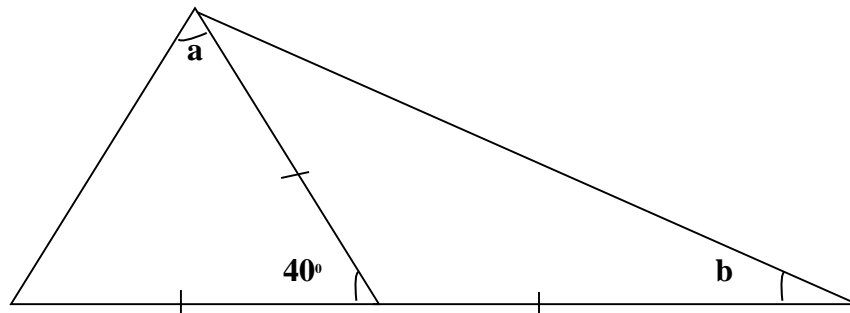
3) Factories.

a) $9 - (a - b)^2$

b) $25p^2 + 10p + 1$

c) $5(m - 2n) - (m - 2n)^2$

d) $(a + 3b)(a - 3b) - (a + 2b)(a - b)$

e) Find a and b of the given diagram.

Q1. Given the simultaneous linear equation, complete the tables below.

a) $4y = x + 8$

b) $y = 2x + 9$

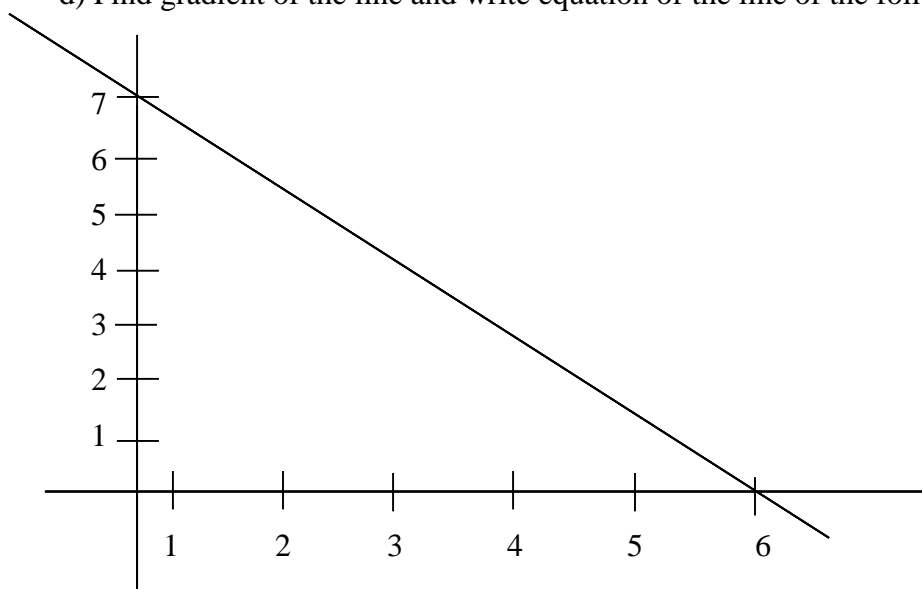| x	-4	0	4

x	-4	0	1
y			

b) Draw the graph of equations on the same rectangular plan.

c) Write down the solution set.

Ans. _____

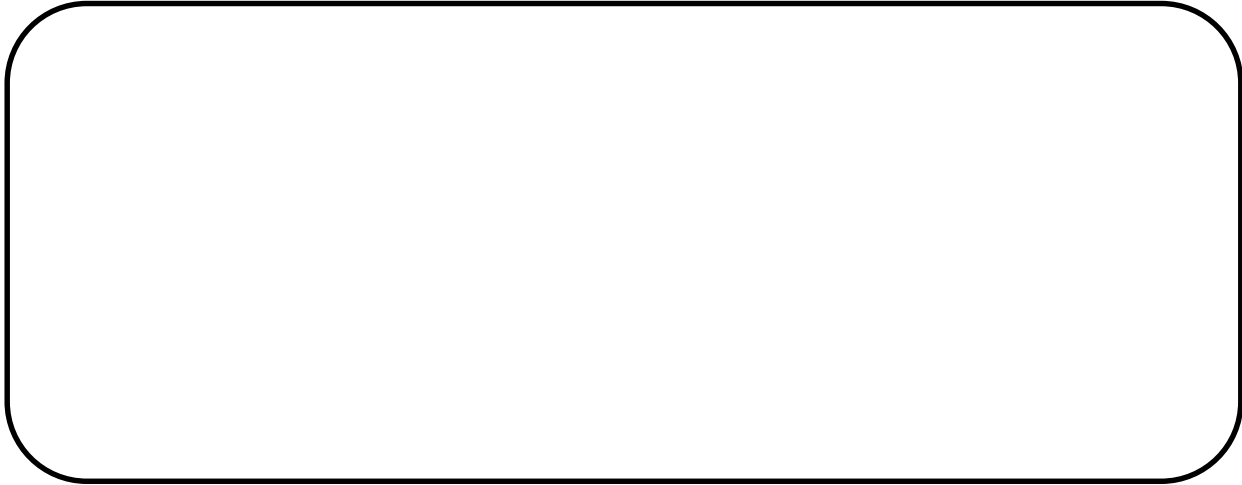d) Find gradient of the line and write equation of the line of the following:

e) A bus leaves town "x" at 21 00 and arrive in town "y" at 08 00 the next day. Calculate

i.   The time taken for the journey

ii.   The average speed of the bus, given that the distance from town x to town y is 650 km.

Q2a) Solve the following equations

i. $\dfrac{3(x-2)}{4} = 4x - 8$

ii. $(2x - 5)(7 - 3x) = 0$

b) When a number is divided by 4 and has 28 added to it, the result is equal to twice the number.

Find the number**.**

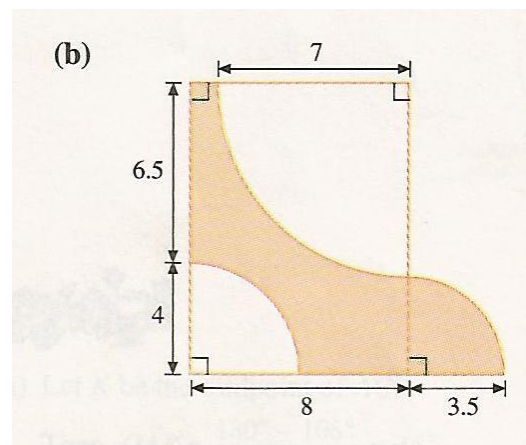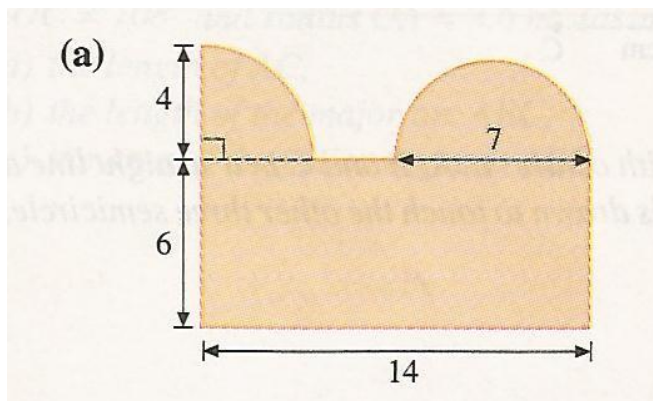**Q3. A map of a region is drawn to a scale of 1: 25000**

a) Write scale of the given representative fraction where 1 cm = _____ km.

b) Calculate the actual distance, in km, represented by 24 cm on the map.

c) On the map, a reservoir has an area of 16 cm^2.

Calculate the actual area of reservoir in km^2.

Q4. Work out the area and perimeter of the shaded region in the following diagram

(a)

4

7

6

14

(b)

7

6.5

4

8

3.5

Q5i) A gardener sowed 5 seeds into each of 100 plant pots. The number of seeds germinating
   in each pot was recorded and the result given in the below table:

Number of seeds germinating	1	2	3	4	5	6
Number of pots	10	30	25	20	10	5

a) Draw a histogram to show the results   .

b) How many seeds did the gardener sow altogether?

c) Calculate mean and mode of the distribution.

ii) The length and breadth of the rectangle are (5x +3) cm and (3x – 2) cm respectively.

Write down in terms of x.

a) The perimeter

b) The area

c) If the area of rectangle is 230 cm^2. Find the value of x and hence write down the perimeter of the

Rectangle.