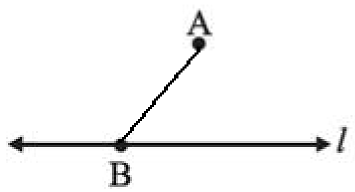
CBSE Board
Class VII Mathematics
Term I
Sample Paper 1

Time: 1 hour — Total Marks: 25

Solution
Section A

1. Correct answer: A
According to the distributive property of integers, we have:
$a \times (b + c) = a \times b + a \times c$

2. Correct answer: B
Join A to B.



3. Correct answer: B
A number is chosen from numbers 1 to 5.
Odd numbers are 1, 3, 5.
Required probability
= number of ways to choose an odd number /total number of numbers
= 3/5

4. Correct answer: A
$3x + 4 = 25$
Transposing 4 to R.H.S, we get
$3x = 25 - 4$
$3x = 21$
Dividing both sides by 3, we get
$x = 7$

5. Correct answer: D
Since, the angle measuring 150^o and y are corresponding angles. Therefore, $y = 150^o$.
(As the lines are parallel, corresponding angles are equal)

6. Correct answer: D
We know that the measure of an exterior angle of a triangle is equal to the sum of its two opposite interior angles.
So, $x + 90^o = 125^o$
Therefore, $x = 35^o$

Section B

7. To find the complement of each of the given angle, we have to subtract them from 90^o, since the sum of two complementary angles is 90^o.

(a) 45^o

Complementary angle of $45^o = 90^o - 45^o = 45^o$

(b) 54^o

Complementary angle of $54^o = 90^o - 54^o = 36^o$

(c) 65^o

Complementary angle of $65^o = 90^o - 65^o = 25^o$

8. (a) $6n + 4 = 10$

Statement:

For 6n, Six times of a number n

For 6n + 4, Six times of a number n added to 4

Thus, for 6n + 4 = 10, the final statement is

"Six times of a number n added to 4 gives 10".

(b) $\frac{y}{7} - 3 = 9$

Statement:

For $\frac{y}{7}$, one-seventh of a number y

For $\frac{y}{7} - 3$, 3 subtracted from one-seventh of a number y

Thus, for $\frac{y}{7} - 3 = 9$, the final statement is

"3 subtracted from one-seventh of a number y gives 9".

9. $\frac{2}{4}$ part of the exercise is solved by Raju.

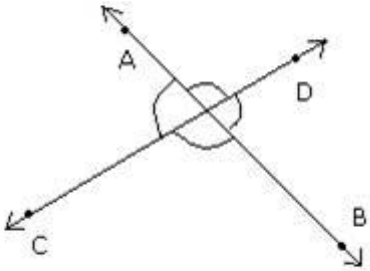
When $\frac{2}{4}$ is converted into lowest form, we get

$\frac{2}{4} = \frac{2 \div 2}{4 \div 2} = \frac{1}{2}$

which is same as part of exercise solved by Sameer.

Thus, both have solved same part of the exercise.

10. When two line intersect the following figure is formed. This shows that 4 angles are formed.



11. Divide the total length of ribbon by the length of each strip of ribbon that is cut from it to get the total number of ribbon strips.

So, divide $7\frac{1}{2}$ by $1\frac{1}{4}$

$= 7\frac{1}{2} \div 1\frac{1}{4}$

$= \frac{15}{2} \div \frac{5}{4}$

$= \frac{15}{2} \times \frac{4}{5}$

$= \frac{3}{1} \times \frac{2}{1} = \frac{3 \times 2}{1} = \frac{6}{1} = 6$

Thus, 6 strips can be cut from the ribbon.

Section C

12. (1) Sales of branch B2 for both years = 75 + 65 = 140

Sales of branch B4 for both years = 85 + 95 = 180

Required ratio = $\frac{140}{180} = \frac{7}{9} = 7:9$

(2) Average sales of all the six branches (in thousand numbers) for the year 2000

$= \frac{1}{6} \times (80 + 75 + 95 + 85 + 75 + 70) = 80$

(3) Total sales of branch B6 for both the years = 70 + 80 = 150

Total sales of branch B3 for both the years = 95 + 110 = 205

Required percentage = $\left(\frac{150}{205} \times 100\right)\% = 73.17\%$

13. Since, ADB is a right-angled triangle.

$AD^2 + BD^2 = AB^2$

$AD^2 + BD^2 = AC^2$ [given, AB = AC]

$AD^2 + BD^2 = (AD + CD)^2$

$AD^2 + BD^2 = AD^2 + CD^2 + 2AD.CD$

[Subtract AD^2 from both sides]

$BD^2 = CD^2 + 2AD.CD$

[Subtract CD^2 from both sides]

$BD^2 - CD^2 = 2AD.CD$

Thus, $BD^2 - CD^2 = 2AD.CD$

14. Given that, both the figures are congruent.

Corresponding sides:

OP $\leftrightarrow$ WX; OR $\leftrightarrow$ UX; QR $\leftrightarrow$ UV; QP $\leftrightarrow$ VW

Corresponding vertices:

O $\leftrightarrow$ X; P $\leftrightarrow$ W; Q $\leftrightarrow$ V; R $\leftrightarrow$ U

Corresponding angles:

$\angle O \leftrightarrow \angle X$; $\angle P \leftrightarrow \angle W$; $\angle Q \leftrightarrow \angle V$; $\angle R \leftrightarrow \angle U$