# SHIKSHA CLASSES

**Sub. : Maths** | **Question Paper** | **Marks : 20**

**Std. : VIII$^{th}$ - S.B.** | **2.Parallel lines and transversal** | **Time : 45 min.**

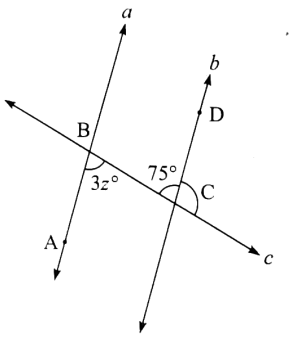
**Q.1 : A) Select the most appropriate Alternative.** 02

1) When two parallel lines are intersected by a transversal, _____ angles are formed.

a) four b) two c) eight d) six

2) In the figure, line a || line b and line c is the transversal.

$\angle ABC = 3z^0$ and $\angle BCD = 75^0$, then value of z is




a) 25 b) 75 c) 50 d) 15

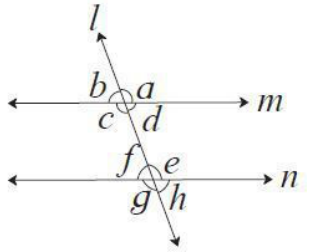
**: B) Solve the following.** 01

1) Define "Transversal".

**Q.2 : A) Solve any one of the following. (Activity)** 02

1) In the adjoining figure line m || line n line *l* is a transversal.

If m $\angle b = (x + 15)^0$ and m $\angle e = (2x + 15)^0$, find the value of x.




**Ans :** $\angle b \cong \angle f$.... (corresponding angles)

m $\angle f$ = m $\angle$ b = $(x + 15)^\circ$

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$m\angle f + m\angle e = 180^0$ --- (Angles in linear pair)

substituting values in the equation,

$x + 15 + \square = 180^0$

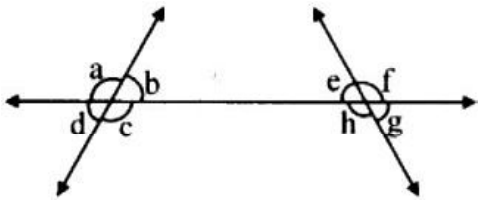
$\therefore\ 3x + \square = 180^0$

$\therefore\ 3x = 180^0 - 30^0 = \square$ --- (subtracting 30 from both sides)

$\therefore\ x = \frac{150^0}{3}$ --- (dividing both sides by 3)

$\therefore\ x = \square$.

2) Observe the angles shown in the figure and write the following pair of angles.




1) Interior alternate angles

2) Corresponding angles

→ **Interior alternate angles :**

i) $\angle c$ and $\square$ ii) $\square$ and $\angle h$

**Corresponding angles :**

i) $\angle a$ and $\angle e$ ii) $\angle d$ and $\square$

iii) $\angle b$ and $\square$ iv) $\angle c$ and $\angle g$

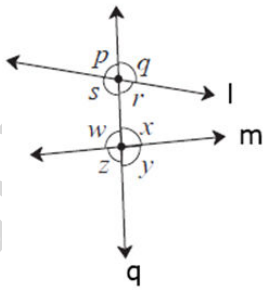
**: B) Solve any one of the following.** 02

1) Draw a line *l*. Take a point A outside the line. Through point A draw a line parallel to line *l*.

2) Draw a line parallel to line *l* at a distance of 2.5cm.

**Q.3 : A) Solve any one of the following.(Activity)** 03

1) In the figure, each angle is shown by a letter. Fill in the boxes with the help of the figure.

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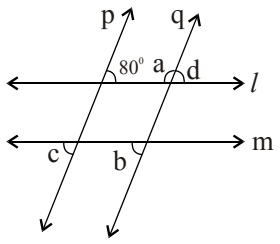
Corresponding angles :

1) $\angle$p and $\square$ 2) $\angle$q and $\square$ 3) $\angle$r and $\square$ 4) $\angle$s and $\square$

Interior alternate angles :

5) $\angle$s and $\square$ 6) $\angle$w and $\square$

2) In the given figure, line p || line q. Line $l$ || line m. Find measures of $\angle$a, $\angle$b and $\angle$c, using the measure of given angle. Justify your answers.




$\rightarrow$ Consider $\angle$d as shown.

Line p || q and line $l$ is the transversal.

$\therefore$ m$\angle$d = $\square$ (Corresponding angles)

m$\angle$d + m$\square$ = $180^0$ --- (Angles in linear pair)

$\therefore$ $\square$ + m$\angle$a = $180^0$

$\therefore$ m$\angle$a = $180^0$ − $\square$

$\therefore$ m$\angle$a = $\square$

Line $l$ || line m and line q is the transversal,

$\angle$b $\cong$ $\angle$d ---(Exterior alternate angles)

$\therefore$ m$\angle$b = m$\angle$d

$\therefore$ m$\angle$b = $\square$

Line p || line q and line m is the transversal,

$\angle$c $\cong$ $\angle$b ---(Corresponding angles)

$\therefore$ m$\angle$c = m$\angle$b

$\therefore$ m$\angle$b = $80^0$

m$\angle$a = $100^0$, m$\angle$b = $80^0$ and

m$\angle$c = $80^0$.

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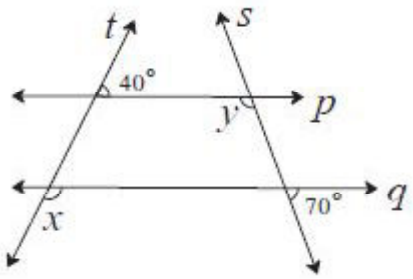
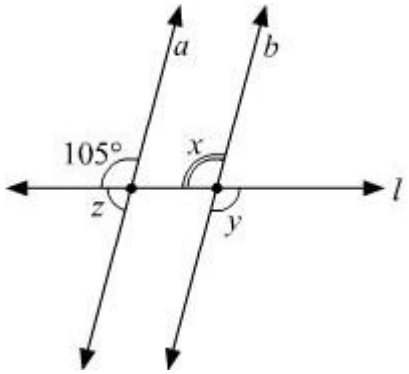
: **B) Solve any one of the following.** 03

1) In the given figure, line p || line q. Line t and line s are transversals. Find measures of $\angle x$ and $\angle y$ using the measures of angles given in the figure.

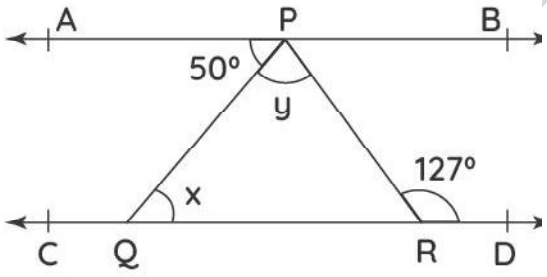



2) In the given figure, line a || line b. Line *l* is a transversal. Find the measures of $\angle x$, $\angle y$, $\angle z$ using the given information.

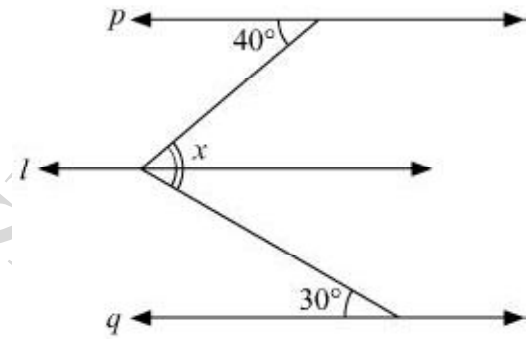



**Q.4 : Solve any one of the following.** 04

1) In the figure, if AB || CD, $\angle APQ = 50^0$ and $\angle PRD = 127^0$, Find x and y.




2) In the given figure, line p || line *l* || line q. Find $\angle x$ with the help of the measures given in the figure.

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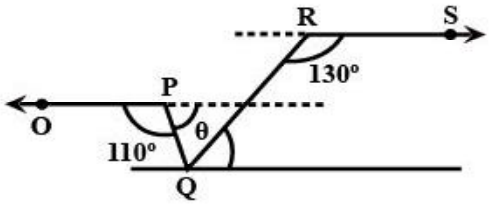
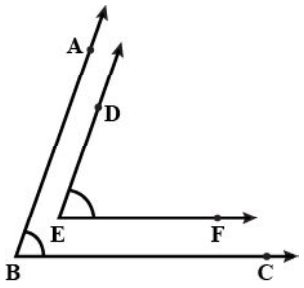
**Q.5 : Solve any one of the following.** 03

1) In a figure, if OP || RS, $\angle OPQ = 110^0$ and $\angle QRS = 130^0$, then Find $\angle PQR$:




2) In a figure, BA || ED and BC || EF show that $\angle ABC = \angle DEF$

(Hint : Produce DE to intersect BC at P)

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