

## Review Exercise 10

1. Which of the following are true and which are false?

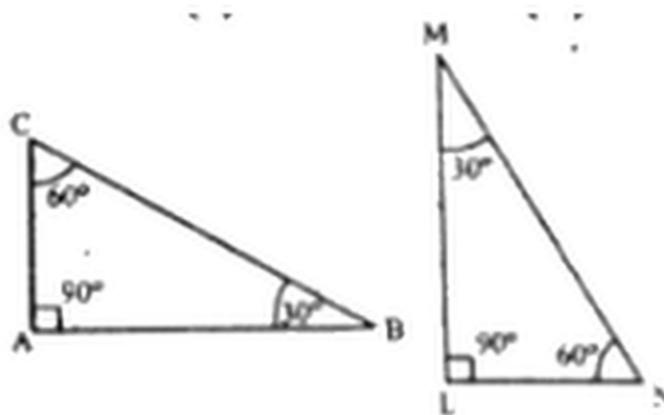
- (i) A ray has two end points
- (ii) In a triangle, there can be only one right angle
- (iii) Three points are said to be collinear, if they lie on same line
- (iv) Two parallel lines intersect at a point.
- (v) Two lines can intersect only at one point.
- (vi) A triangle of congruent sides has non-congruent angles.

Answers:

|       |        |         |        |       |        |
|-------|--------|---------|--------|-------|--------|
| (i) F | (ii) T | (iii) T | (iv) F | (v) T | (vi) F |
|-------|--------|---------|--------|-------|--------|

2. If  $\triangle ABC \cong \triangle LMN$ , then

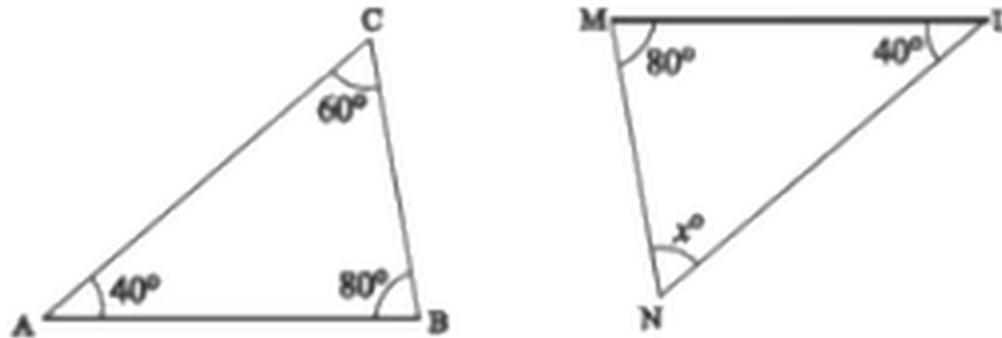
- (i)  $m\angle M \cong \dots\dots\dots$
- (ii)  $m\angle N \cong \dots\dots\dots$
- (iii)  $m\angle A \cong \dots\dots\dots$



Solution:

|       |        |         |
|-------|--------|---------|
| (i) F | (ii) T | (iii) T |
|-------|--------|---------|

3. If  $\triangle ABC \cong \triangle LMN$ , then find the unknown  $x$ .



**Solution:**

Given that:  $\triangle ABC \cong \triangle LMN$

$\angle C \cong \angle M$

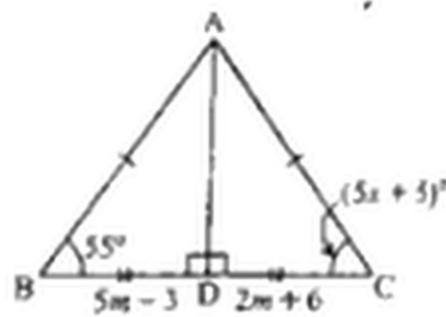
or  $m\angle C \cong m\angle M$

$\implies 60^\circ \cong x$

$\implies x \cong 60^\circ$

**Q4. Find the value unknowns for the given congruent triangles.**

**Solution:**



$\triangle ADB \cong \triangle ADC$

$BD \cong CD$

Corresponding sides of  $\triangle$ 's.

$$\implies m\angle B \cong m\angle C$$

$$\implies 5m - 3 = 2m + 6$$

$$\text{or } 5m - 2m = 6 + 3$$

$$3m = 9$$

$$\angle B \cong \angle C$$

Corresponding sides of  $\cong \Delta$ 's.

$$\implies m\angle B \cong m\angle C$$

$$55 = (5x + 5)$$

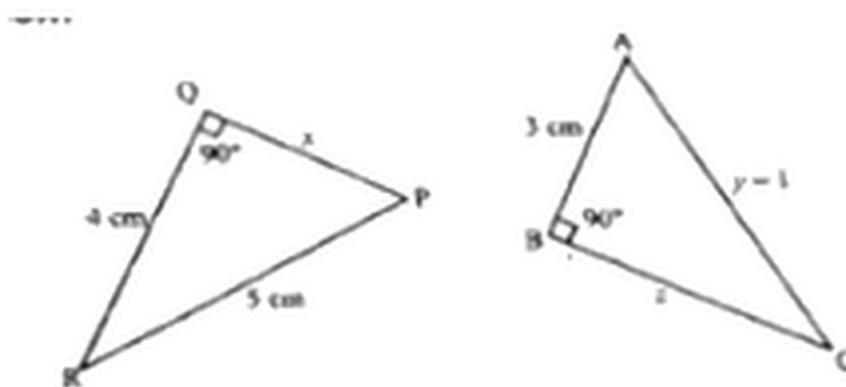
$$55 = 5x + 5$$

$$5x = 55 - 5 = 50$$

$$x = 10^\circ$$

**Q5. If  $PQR \cong ABC$ , then find the unknowns**

**Solution:**



$$\Delta PQR \cong \Delta ABC$$

$$\therefore \overline{RQ} \cong \overline{AB}$$

Corresponding sides of  $\cong \Delta$  s.

$$\implies x = 3 \text{ cm}$$

$$\overline{RP} \cong \overline{AC}$$

Corresponding sides of  $\cong$   $\Delta$ 's.

$$\Rightarrow 5 = y - 1$$

$$y = 5 + 1$$

$$\Rightarrow y = 6$$

also  $\overline{QR} \cong \overline{BC}$

Corresponding sides of  $\cong$   $\Delta$ 's.

$$m\overline{QR} \cong m\overline{BC}$$

$$4 \text{ cm} = z$$

or  $z = 4 \text{ cm}$

