BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.
JULY ASSIGNEMENT ANSWER KEY
CLASS- IX (MATHEMATICS)
TOPICS: LINES AND ANGLES AND TRIANGLES

SECTION –A (MULTIPLE CHOICE QUESTIONS)

1.	(b) 120°
2.	(c) SSA
3.	(d) 3 cm

SECTION – B(2 MARKS QUESTIONS)

4.	In triangles PAB and PDC, PA = PD (given) AB = CD (side of square) ∠PAB= ∠PDC (90°) ∆ PAB ≅ ∆ PDC (By SAS congruency) PB = PC (By cpct) So, ∠ PCB = ∠ PBC (Angles opposite to equal sides) Hence proved.
5.	15°

SECTION – C (3 MARKS QUESTIONS)

6.	∠FCE = 35°
7.	In triangles AFE and CBD, we have AB = CF (Given) Adding BF on both the sides AB + BF = CF + BF ⇒ AF = BC Now in triangles AFE and CBD, we have AF = CB (Proved above) ∠AFE = ∠CBD (Given) EF = BD (Given) △AFE ≅ △CBD (By SAS congruence criterion)

SECTION – D (5 MARKS QUESTIONS)

8.	i) In ∆ PST and ∆ QRT ST = RT (Sides of equilateral triangle) ∠ PST = ∠ QRT (90° + 60° = 150°) PS = QR (Sides of square) By SAS Congruency , ∆ PST ≅ ∆ QRT PT = QT (By CPCT) ii) TR = TQ So, ∠ RTQ = ∠ TQR Using ASP of ∆ ∠ RTQ + ∠ TQR + ∠ TRQ = 180° ∠ TQR + ∠ TQR + 150° = 180° Solving,

	$\angle$ TQR = 15°
9.	Given, in ΔABC, $\angle B = 2\angle C$, AD = CD and AD bisects $\angle BAC$. Since AD = CD $\Rightarrow \angle C = \angle DAC$ But $\angle B = 2\angle C \Rightarrow \angle B = 2\angle DAC$ $\Rightarrow \angle B = \angle A = x$ (say) ($\because$ AD is bisector of $\angle BAC$) Now, $\angle A + \angle B + \angle C = 180°$ (Angle Sum Property) $x + x + \angle B/2 = 180°$ $\Rightarrow 2x + x/2 = 180°$ $\Rightarrow (4x + x)/2 = 180°$ $\Rightarrow 5x/2 = 180°$ $\Rightarrow x = (180° \times 2)/5$ $\Rightarrow x = 72°$ $\therefore \angle A = 72° \Rightarrow \angle BAC = 72°$
SECTION – E (CASE STUDY)	
10.	CASE STUDY (a) 1:2 (b) 110 cm (c) Acute and isosceles