

Geometry Review Worksheet

(1) Refer to the figure to the right, given $\overline{DE} \parallel \overline{BC}$.

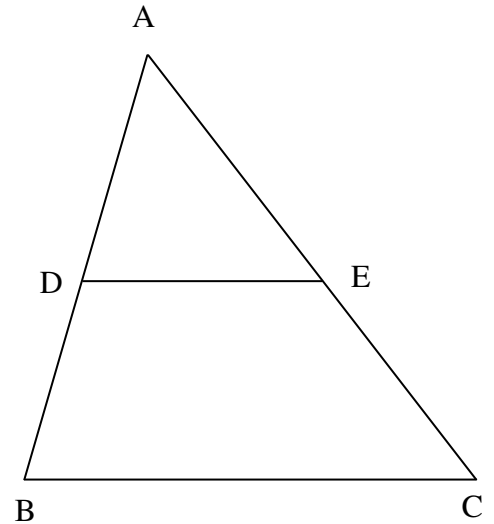
(a) $AD = 7$, $BD = 3$, $DE = 6$ **Find:** BC _____

(b) $AD = 3$, $BD = 5$, $AE = 4$ **Find:** CE _____

(c) $AD = 4$, $AB = 10$, $BC = 25$ **Find:** DE _____

(d) $AD = (x - 1)$, $BD = 5$, $AE = 1$, $CE = (x + 3)$,
 $DE = (2x + 1)$ **Find:** x _____ , BC _____

(e) $AD = 2x$, $BD = (x + 3)$, $AE = (4x - 1)$,
 $CE = 5x$, $BC = (6x + 2)$ **Find:** x _____ , DE _____



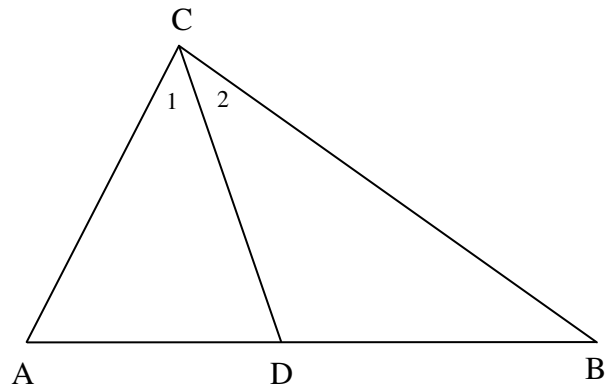
(2) Refer to the figure to the right, $\angle 1 \cong \angle 2$.

(a) $AC = 6$, $BC = 8$, $BD = 5$ **Find:** AD _____

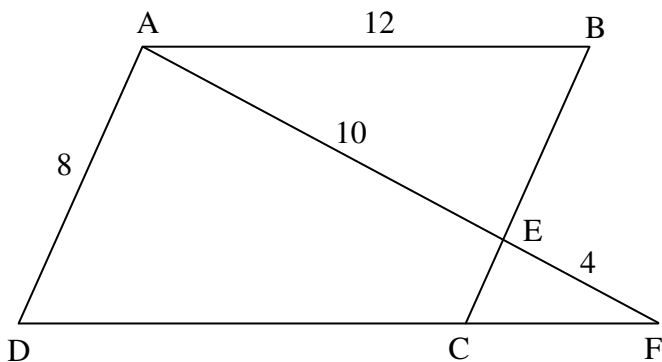
(b) $AB = 10$, $AC = 4$, $BC = 8$ **Find:** AD _____

(c) $AC = 3$, $AD = (x - 4)$, $BC = x$, $BD = 4$

Find: BC _____

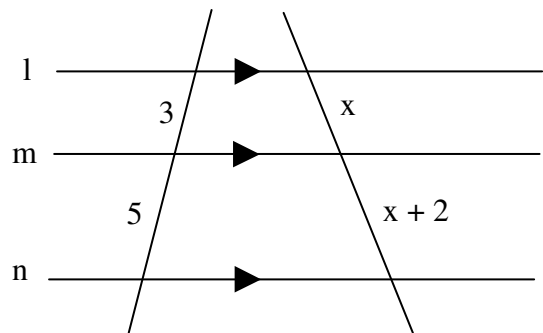


(3) **Given:** $\square ABCD$ is a parallelogram, sides as marked.



Find: BE _____ , CE _____ , CF _____

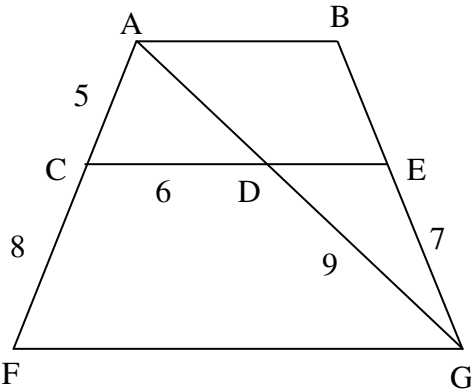
(4) **Given:** The figure below, $l \parallel m \parallel n$



Find: x _____

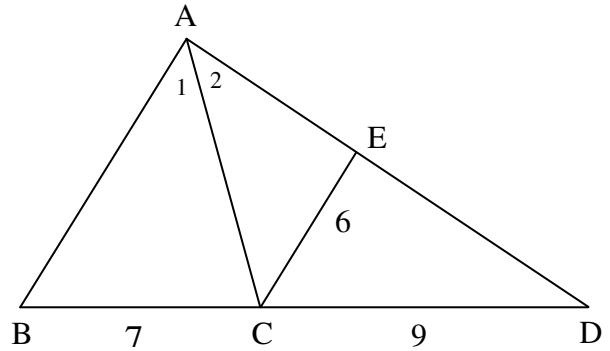
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(5) **Given:** $\overline{AB} \parallel \overline{CE} \parallel \overline{FG}$, sides as marked



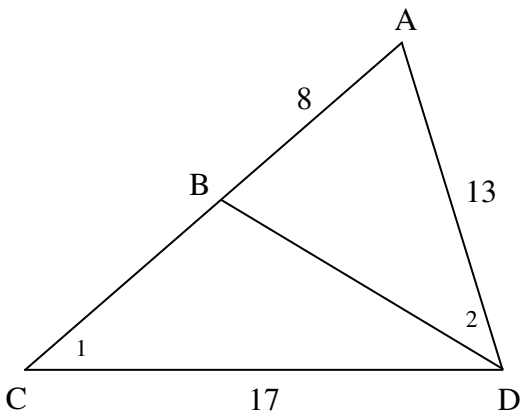
Find: AD _____, BE _____, FG _____

(6) **Given:** $\angle 1 \cong \angle 2$, $\overline{AB} \parallel \overline{CE}$, sides as marked.



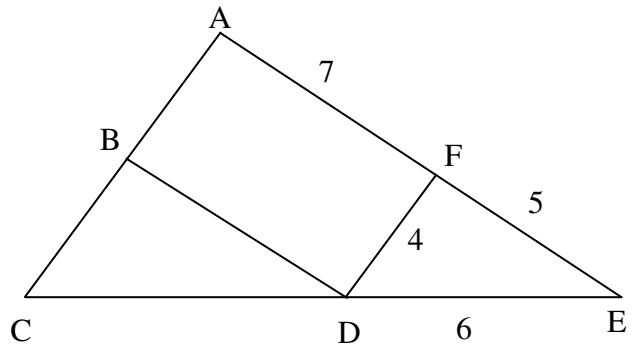
Find: AB _____, AD _____, AE _____
DE _____

(7) **Given:** $\angle 1 \cong \angle 2$, sides as marked.



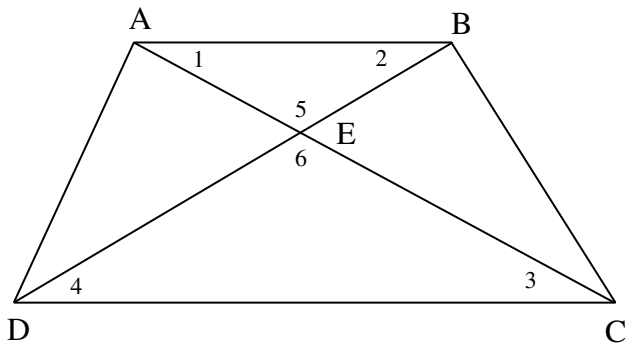
Find: BC _____, BD _____

(8) **Given:** $\overline{BD} \parallel \overline{AE}$, $\overline{DF} \parallel \overline{AC}$, sides as marked



Find: AC _____, BD _____, CD _____

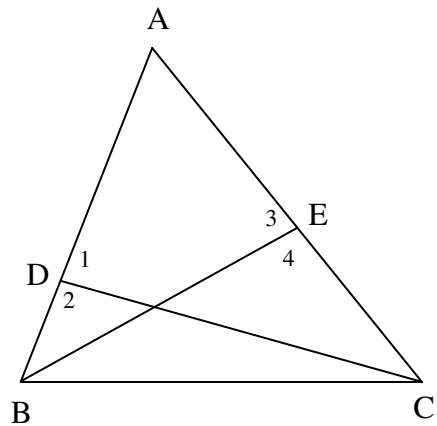
(9)



Given: $\overline{AB} \parallel \overline{CD}$

Prove: $AE \cdot DE = BE \cdot CE$

(10)



Given: $\overline{CD} \perp \overline{AB}$, $\overline{BE} \perp \overline{AC}$

Prove: $AE \cdot AC = AD \cdot AB$

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Answers

(1) (a) $BC = \frac{60}{7}$

(b) $CE = \frac{20}{3}$

(c) $DE = 10$

(d) $x = 2$, $BC = 30$

(e) $x = \frac{1}{3}$, $DE = \frac{2}{3}$ or $x = \frac{3}{2}$, $DE = \frac{22}{5}$

(2) (a) $AD = \frac{15}{4}$

(b) $AD = \frac{10}{3}$

(c) $BC = 6$

(3) $BE = \frac{40}{7}$, $CE = \frac{16}{7}$, $CF = \frac{24}{5}$

(4) $x = 3$

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Answers

(5) $AD = \frac{45}{8}$, $BE = \frac{35}{8}$, $FG = \frac{78}{5}$

(6) $AB = \frac{32}{3}$, $AD = \frac{96}{7}$, $AE = 6$, $DE = \frac{54}{7}$

(7) $BC = \frac{105}{8}$, $BD = \frac{136}{13}$

(8) $AC = \frac{48}{5}$, $BD = 7$, $CD = \frac{42}{5}$

(9)

STATEMENTS	REASONS
1) $\overline{AB} \parallel \overline{CD}$	1) Given
2) $\angle 1 \cong \angle 3$	2) PAI
3) $\angle 2 \cong \angle 4$	3) PAI
4) $\triangle ABE \sim \triangle CDE$	4) AA
5) $\frac{AE}{CE} = \frac{BE}{DE}$	5) Defn $\sim \Delta$'s
6) $AE \cdot DE = BE \cdot CE$	6) Cross Multiply

(10)

STATEMENTS	REASONS
1) $\overline{CD} \perp \overline{AB}$	1) Given
2) $\overline{BE} \perp \overline{AC}$	2) Given
3) $\angle 1, \angle 3$ are right $\angle$'s	3) Defn $\perp$
4) $\angle 1 \cong \angle 3$	4) ARC
5) $\angle A \cong \angle A$	5) reflexive
6) $\triangle ABE \sim \triangle ACD$	6) AA
5) $\frac{AE}{AD} = \frac{AB}{AC}$	5) Defn $\sim \Delta$'s
6) $AE \cdot AC = AD \cdot AB$	6) Cross Multiply