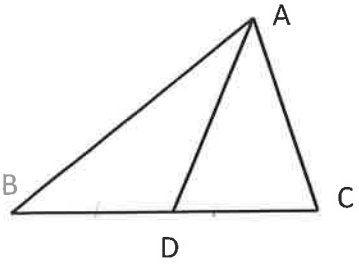
Name _____ Date _____

In each figure, $\overline{AD}$ is a median. Find x.

AC = 18
BD = 6x – 2
CD = 2x + 6

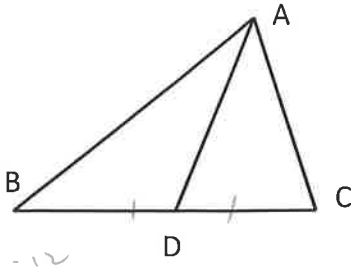


$6x-2 = 2x+6$

$4x = 8$

$x = 2$

AB =26
BD = 3x – 2
BC = 10x - 12



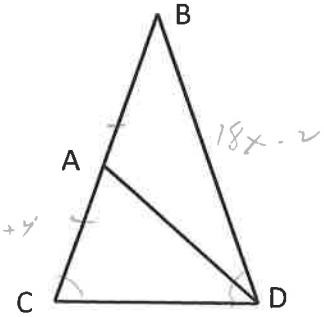
$2(3x-2) = 10x-12$

$6x - 4 = 10x - 12$

$8 = 4x$

$2 = x$

ΔBCD is isosceles, with ∠B as the vertex angle.
AC = 5x + 4
BD = 18x - 2
CD = 10x



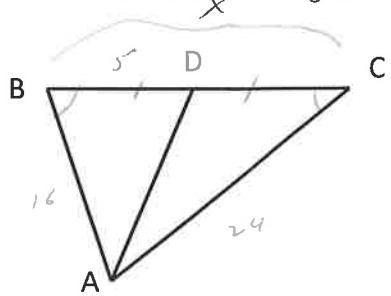
$2(5x+4) = 18x-2$

$10x + 8 = 18x - 2$

$10 = 8x$

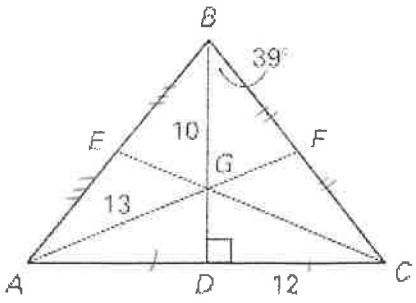
$1.25 = x$

ΔABD is isosceles, with ∠A as the vertex angle.
AB =16
BD = 5
AC = 24
BC = x



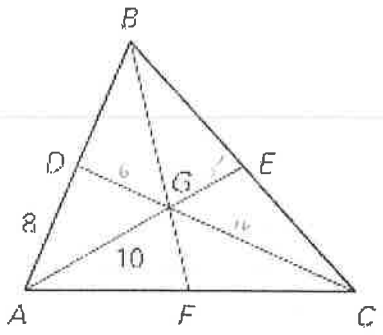
$x = 10$

1. Name a median $\overline{AF}$, $\overline{CE}$, $\overline{BD}$
2. Name an angle bisector $\overline{BD}$
3. Name a perpendicular bisector $\overline{BD}$
4. AD = 2x – 4. Find x. $2x - 4 = 12$ $x = 8$
5. Find EF 12
6. Find $m\angle BAD$ $90 - 39 = 51°$



G is the centroid of $\triangle ABC$, $AD = 8$, $AG = 10$, and $CD = 18$. Find the length of the segment.

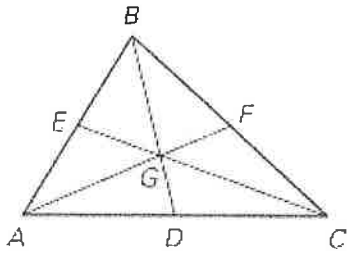
1. BD 8
2. AB 16
3. EG 5
4. AE 15
5. CG 12
6. DG 6



Challenge Questions

BD, AF, and EC are medians with G as the centroid of the triangle. For each question, find x.

18. $CG = 3x + 7$ and $CE = 6x$
19. $FG = x + 8$ and $AF = 9x - 6$
20. $BG = 5x - 1$ and $DG = 4x - 5$



(18) $\frac{2}{3}(CE) = CG$

$\frac{2}{3}(6x) = 3x + 7$

$4x = 3x + 7$

$x = 7$

(19) $x + 8 = \frac{1}{3}(5x - 6)$

$x + 8 = 5x - 2$

$10 = 2x$

$5 = x$

(20) $5x - 1 = 2(4x - 5)$

$5x - 1 = 8x - 10$

$9 = 3x$

$3 = x$