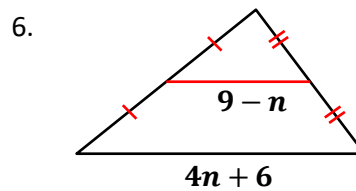
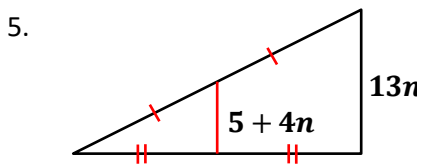
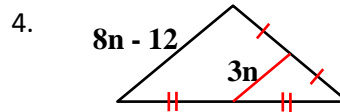
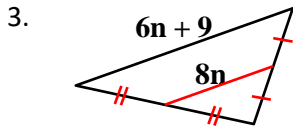
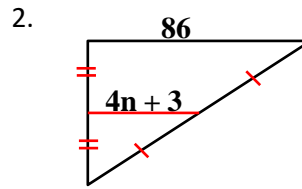
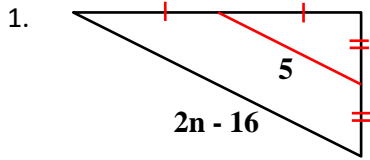
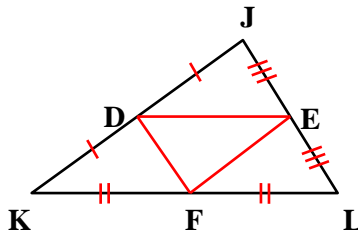


# MIDSEGMENTS OF TRIANGLES Assignment

Find the value of  $n$ .

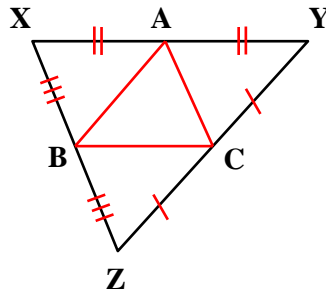


# MIDSEGMENTS OF TRIANGLES Assignment



In  $\triangle JKL$ ,  $\overline{KD} = \overline{DJ}$ ,  $\overline{JE} = \overline{EL}$ ,  $\overline{KF} = \overline{FL}$ . Complete the statements below.

7.  $\overline{DF} \parallel$  \_\_\_\_\_
8.  $\overline{DE} \parallel$  \_\_\_\_\_
9.  $\overline{EF} \parallel$  \_\_\_\_\_
10.  $\overline{DF} =$  \_\_\_\_\_  $=$  \_\_\_\_\_
11.  $\overline{DE} =$  \_\_\_\_\_  $=$  \_\_\_\_\_
12.  $\overline{EF} =$  \_\_\_\_\_  $=$  \_\_\_\_\_



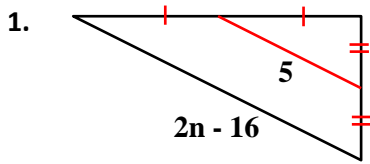
Use  $\triangle XYZ$ , where  $A$ ,  $B$ , and  $C$  are midpoints of the sides.

13. If  $\overline{BC} = 3x + 8$  and  $\overline{XA} = 2x + 24$ , what is  $\overline{XY}$ ?
  
14. If  $\overline{XZ} = 3x + 5$  and  $\overline{AC} = 6x - 2$ , what is  $\overline{AC}$ ?
  
15. If  $\overline{AB} = 7x - 1$  and  $\overline{ZC} = 4x + 2$ , what is  $\overline{CY}$ ?

# MIDSEGMENTS OF TRIANGLES Assignment

## ANSWER

Find the value of  $n$ .



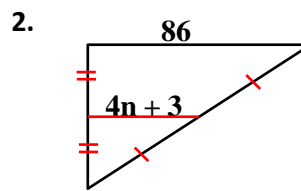
$$2(5) = 2n - 16$$

$$10 = 2n - 16$$

$$10 + 16 = 2n$$

$$26 = 2n$$

$$13 = n$$



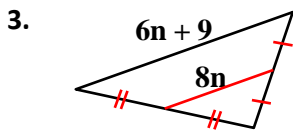
$$86 = 2(4n + 3)$$

$$86 = 8n + 6$$

$$86 - 6 = 8n$$

$$80 = 8n$$

$$10 = n$$



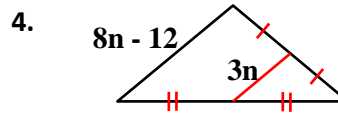
$$6n + 9 = 2(8n)$$

$$6n + 9 = 16n$$

$$9 = 16n - 6n$$

$$9 = 10n$$

$$\frac{9}{10} = n$$



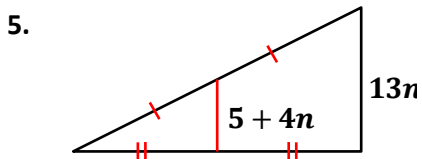
$$8n - 12 = 2(3n)$$

$$8n - 12 = 6n$$

$$8n - 6n = 12$$

$$2n = 12$$

$$n = 6$$



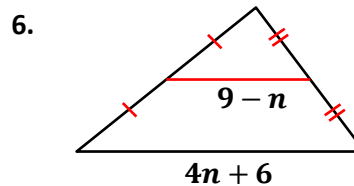
$$13n = 2(5 + 4n)$$

$$13n = 10 + 8n$$

$$13n - 8n = 10$$

$$5n = 10$$

$$n = 2$$



$$2(9 - n) = 4n + 6$$

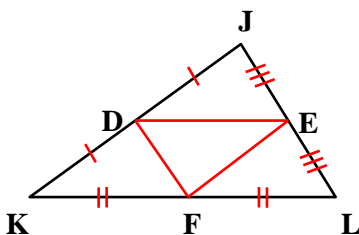
$$18 - 2n = 4n + 6$$

$$18 - 6 = 4n + 2n$$

$$12 = 6n$$

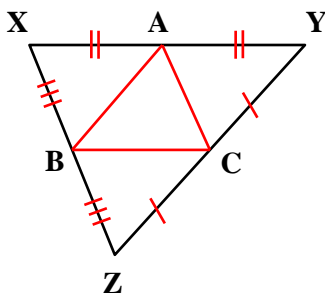
$$2 = n$$

# MIDSEGMENTS OF TRIANGLES Assignment



In  $\triangle JKL$ ,  $\overline{KD} = \overline{DJ}$ ,  $\overline{JE} = \overline{EL}$ ,  $\overline{KF} = \overline{FL}$ . Complete the statements below.

7.  $\overline{DF} \parallel \overline{JL}$
8.  $\overline{DE} \parallel \overline{KL}$
9.  $\overline{EF} \parallel \overline{KJ}$
10.  $\overline{DF} = \overline{JE} = \overline{EL}$
11.  $\overline{DE} = \overline{KF} = \overline{FL}$
12.  $\overline{EF} = \overline{JD} = \overline{DK}$



Use  $\triangle XYZ$ , where  $A$ ,  $B$ , and  $C$  are midpoints of the sides.

13. If  $\overline{BC} = 3x + 8$  and  $\overline{XA} = 2x + 24$ , what is  $\overline{XY}$ ?

$$\begin{aligned} \overline{BC} &= \overline{XA} \\ 3x + 8 &= 2x + 24 \\ 3x - 2x &= 24 - 8 \\ x &= 16 \end{aligned}$$

$$\begin{aligned} \overline{XA} &= 2x + 24 \\ \overline{XA} &= 2(16) + 24 \\ \overline{XA} &= 32 + 24 \\ \overline{XA} &= 56 \end{aligned}$$

$$\begin{aligned} \overline{XY} &= 2(\overline{XA}) \\ \overline{XY} &= 2(56) \\ \overline{XY} &= 112 \end{aligned}$$

14. If  $\overline{XZ} = 3x + 5$  and  $\overline{AC} = 6x - 2$ , what is  $\overline{AC}$ ?

$$\begin{aligned} \overline{XZ} &= 2(\overline{AC}) \\ 3x + 5 &= 2(6x - 2) \\ 3x + 5 &= 12x - 4 \\ 4 + 5 &= 12x - 3x \\ 9 &= 9x \\ 1 &= x \end{aligned}$$

$$\begin{aligned} \overline{AC} &= 6x - 2 \\ \overline{AC} &= 6(1) - 2 \\ \overline{AC} &= 6 - 2 \\ \overline{AC} &= 4 \end{aligned}$$

15. If  $\overline{AB} = 7x - 1$  and  $\overline{ZC} = 4x + 2$ , what is  $\overline{CY}$ ?

$$\begin{aligned} \overline{AB} &= \overline{ZC} \\ 7x - 1 &= 4x + 2 \\ 7x - 4x &= 1 + 2 \\ 3x &= 3 \\ x &= 1 \end{aligned}$$

$$\begin{aligned} \overline{ZC} &= 4x + 2 \\ \overline{ZC} &= 4(1) + 2 \\ \overline{ZC} &= 4 + 2 \\ \overline{ZC} &= 6 \end{aligned}$$

$$\begin{aligned} \overline{CY} &= \overline{ZC} \\ \overline{CY} &= 6 \end{aligned}$$

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

# MIDSEGMENTS OF TRIANGLES Assignment