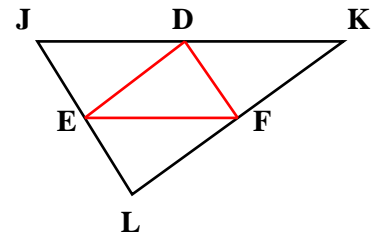# MIDSEGMENTS OF TRIANGLES Exit Quiz

In ∆JKL, $\overline{JE} = \overline{EL}$, $\overline{KF} = \overline{FL}$, $\overline{JD} = \overline{DK}$. Complete the statements below.
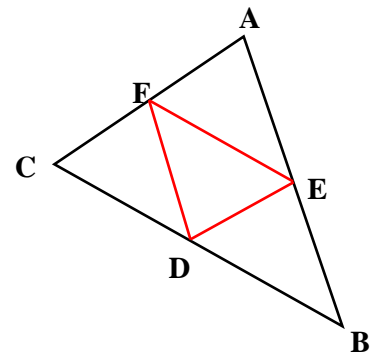
1. If $\overline{JK} = 9x - 5$ and $\overline{EF} = 6x - 13$, what is $\overline{DK}$?

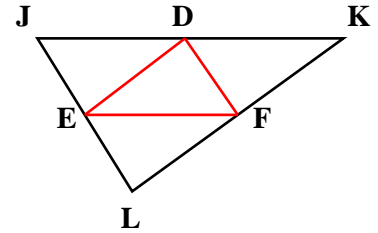2. If $\overline{KL} = 15x + 2$ and $\overline{FL} = 2x + 12$, what is $\overline{DE}$?

3. If $\overline{JE} = 15 + 2x$ and $\overline{DF} = 8x - 9$, what is $\overline{EL}$?

In ∆ABC, $\overline{AF} = \overline{FC}$, $\overline{AE} = \overline{EB}$, $\overline{CB} \parallel \overline{FE}$. Find the value of n.

4. $\overline{EF} = 8n + 1$ and $\overline{BC} = 14n + 12$

5. $\overline{AF} = 14n$ and $\overline{ED} = 60 + 2n$

MIDSEGMENTS OF TRIANGLES Exit Quiz

ANSWER

In ΔJKL, $\overline{JE} = \overline{EL}$, $\overline{KF} = \overline{FL}$, $\overline{JD} = \overline{DK}$. Complete the statements below.

1. If $\overline{JK} = 9x - 5$ and $\overline{EF} = 6x - 13$, what is $\overline{DK}$?

$$\overline{JK} = 2(\overline{EF})$$
$$9x - 5 = 2(6x - 13)$$
$$9x - 5 = 12x - 26$$
$$26 - 5 = 12x - 9x$$
$$21 = 3x$$
$$7 = x$$

$$\overline{DK} = \overline{EF}$$
$$\overline{DK} = 6x - 13$$
$$\overline{DK} = 6(7) - 13$$
$$\overline{DK} = 42 - 13$$
$$\overline{DK} = 29$$

2. If $\overline{KL} = 15x + 2$ and $\overline{FL} = 2x + 12$, what is $\overline{DE}$?

$$\overline{KL} = 2(\overline{FL})$$
$$15x + 2 = 2(2x + 12)$$
$$15x + 2 = 4x + 24$$
$$15x - 4x = 24 - 2$$
$$11x = 22$$
$$x = 2$$

$$\overline{DE} = \overline{FL}$$
$$\overline{DE} = 2x + 12$$
$$\overline{DE} = 2(2) + 12$$
$$\overline{DE} = 4 + 12$$
$$\overline{DE} = 16$$

3. If $\overline{JE} = 15 + 2x$ and $\overline{DF} = 8x - 9$, what is $\overline{EL}$?

$$\overline{JE} = \overline{DF}$$
$$15 + 2x = 8x - 9$$
$$15 + 9 = 8x - 2x$$
$$24 = 6x$$
$$4 = x$$

$$\overline{EL} = \overline{DF}$$
$$\overline{EL} = 8x - 9$$
$$\overline{EL} = 8(4) + 9$$
$$\overline{EL} = 32 + 9$$
$$\overline{EL} = 41$$

MIDSEGMENTS OF TRIANGLES Exit Quiz

In ΔABC, $\overline{AF} = \overline{FC}$, $\overline{AE} = \overline{EB}$, $\overline{CB} \parallel \overline{FE}$. Find the value of n.

4. $\overline{EF} = 8n + 1$ and $\overline{BC} = 14n + 12$

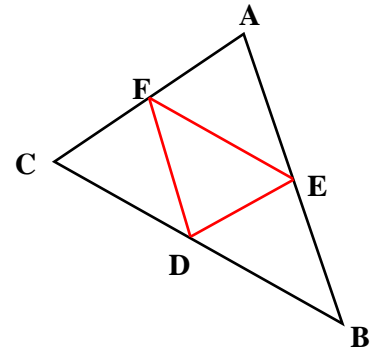$$2 \cdot \overline{EF} = \overline{BC}$$
$$2(8n + 1) = 14n + 12$$
$$16n + 2 = 14n + 12$$
$$16n - 14n = 12 - 2$$
$$2n = 10$$
$$n = 5$$

5. $\overline{AF} = 14n$ and $\overline{ED} = 60 + 2n$

$$\overline{AF} = \overline{ED}$$
$$14n = 60 + 2n$$
$$14n - 2n = 60$$
$$12n = 60$$
$$n = 5$$

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