bases separate the triangles

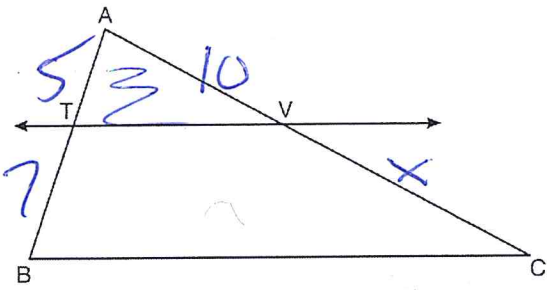
No bases
top/top = side/side = bottom/bottom

Name Schlansky
Mr. Schlansky

Date _____
Geometry

Candy Corn Problems

1. In the diagram below of $\triangle ABC$, $\overleftrightarrow{TV} \parallel \overline{BC}$, $AT = 5$, $TB = 7$, and $AV = 10$.



What is the length of $\overline{VC}$?

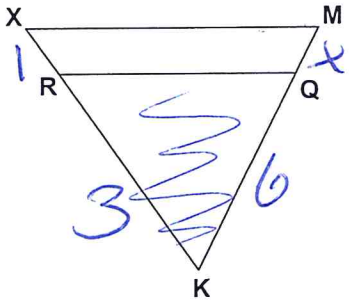
1) $3\frac{1}{2}$
2) $7\frac{1}{7}$
3) 14
4) 24

top/top = bottom/bottom

$\frac{5}{10} = \frac{7}{x}$

$\frac{5x}{5} = \frac{70}{5}$ $x = 14$

2. If $\overline{XM} \parallel \overline{RQ}$, $\overline{RK} = 3$, $\overline{RX} = 1$, and $\overline{QK} = 6$, find $\overline{QM}$

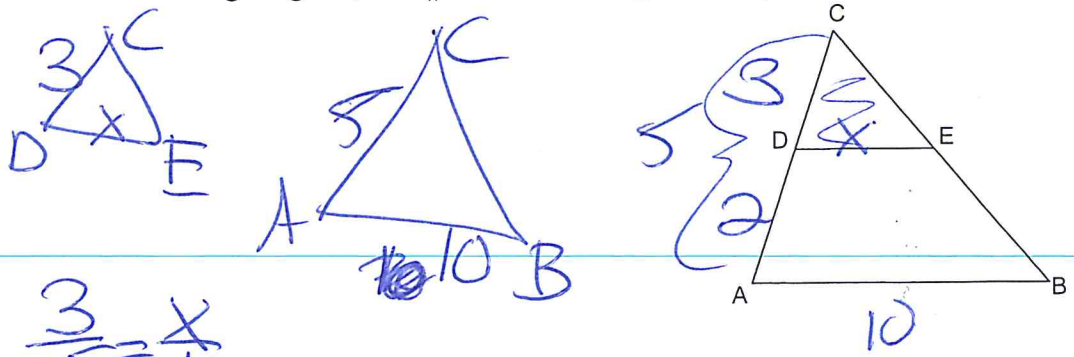


top/top = bottom/bottom

$\frac{3}{6} = \frac{1}{x}$ $\frac{3x}{3} = \frac{6}{3}$

$x = 2$

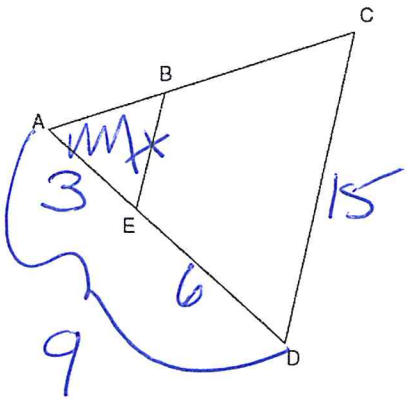
3. In the following diagram, $\overline{DE} \parallel \overline{AB}$. If $\overline{CD} = 3$, $\overline{DA} = 2$, and $\overline{AB} = 10$, find $\overline{DE}$



$\frac{3}{5} = \frac{x}{10}$

$\frac{5x}{5} = \frac{30}{5}$ $x = 6$

4. In the diagram below of $\triangle ACD$, E is a point on $\overline{AD}$ and B is a point on $\overline{AC}$, such that $\overline{EB} \parallel \overline{DC}$. If $AE = 3$, $ED = 6$, and $DC = 15$, find the length of $\overline{EB}$.



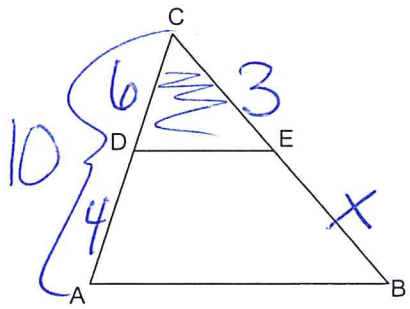
$\frac{3}{9} = \frac{x}{15}$

$\frac{9x}{9} = \frac{45}{9}$

$x = 5$

5. In the following diagram, $\overline{DE} \parallel \overline{AB}$. If $\overline{AC} = 10$, $\overline{DA} = 4$, and $\overline{CE} = 3$, find $\overline{EB}$

$10 - 4 = 6$



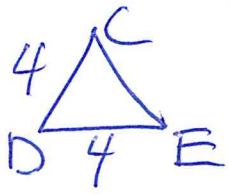
$\frac{\text{top}}{\text{top}} = \frac{\text{bottom}}{\text{bottom}}$

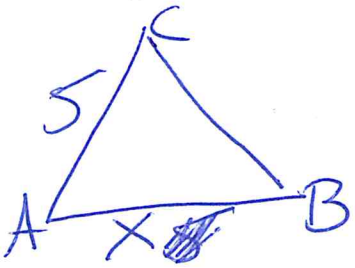
$\frac{6}{3} = \frac{4}{x}$

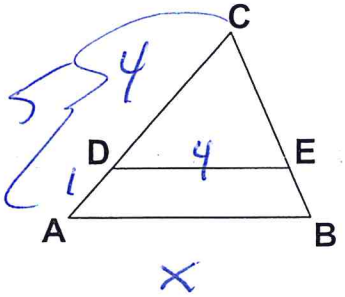
$\frac{6x}{6} = \frac{12}{6}$

$x = 2$

6. In the following diagram, $\overline{DE} \parallel \overline{AB}$. If CD = 4, DE = 4, and DA = 1. Find AB







$\frac{4}{8} = \frac{4}{x}$

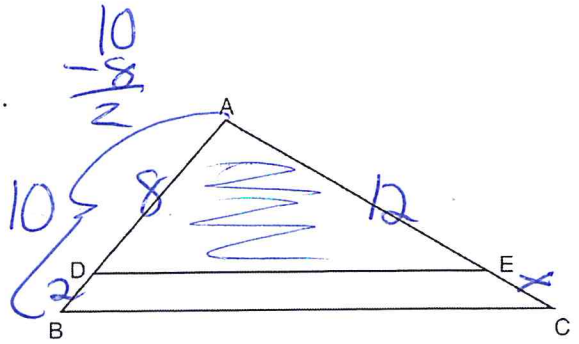
$\frac{4x}{4} = \frac{20}{4}$

$x = 5$

7. In the diagram of $\triangle ABC$ shown below, $\overline{DE} \parallel \overline{BC}$.

If $AB = 10$, $AD = 8$, and $AE = 12$, what is the length of $\overline{EC}$?

1) 6
2) 2
3) 3
4) 15

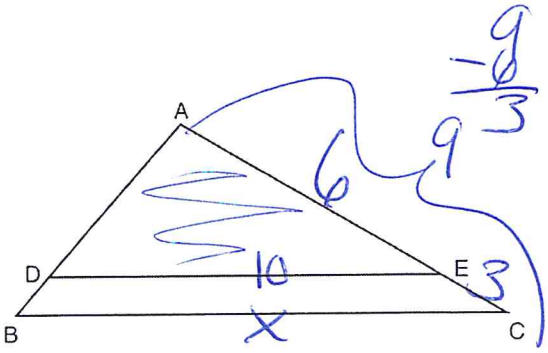


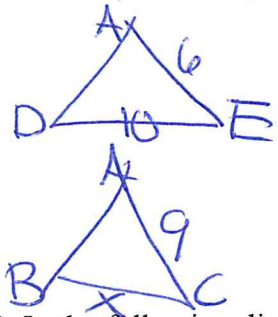
top/top = bottom/bottom

$\frac{8}{12} = \frac{2}{x}$ $\frac{8x}{8} = \frac{24}{8}$ $x = 3$

8. In the diagram of $\triangle ABC$ shown below, $\overline{DE} \parallel \overline{BC}$.

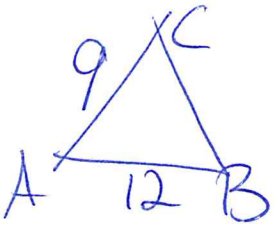
If $\overline{AE} = 6$, $\overline{DE} = 10$, and $\overline{AC} = 9$, find $\overline{BC}$

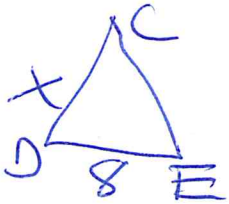




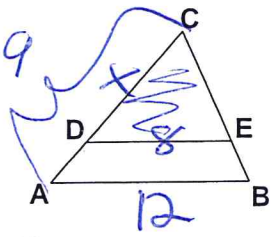
$\frac{6}{9} = \frac{10}{x}$ $\frac{6x}{6} = \frac{90}{6}$ $x = 15$

9. In the following diagram, $\overline{DE} \parallel \overline{AB}$. If AB = 12, DE = 8, and AC = 9, find DC.



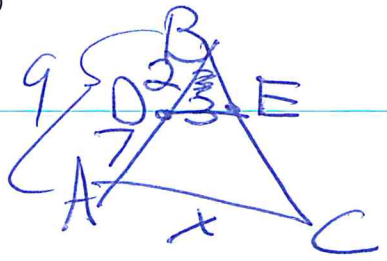


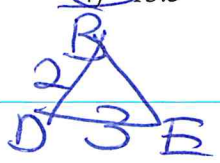
$\frac{9}{x} = \frac{12}{8}$ $\frac{12x}{12} = \frac{72}{12}$ $x = 6$

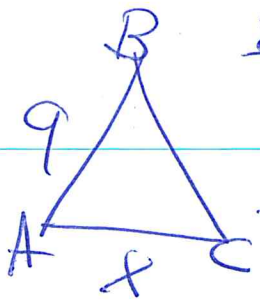


10. In $\triangle ABC$, point D is on $\overline{AB}$, and point E is on $\overline{BC}$ such that $\overline{DE} \parallel \overline{AC}$. If $DB = 2$, $DA = 7$, and $DE = 3$, what is the length of $\overline{AC}$?

1) 8
2) 9
3) 10.5
4) 13.5

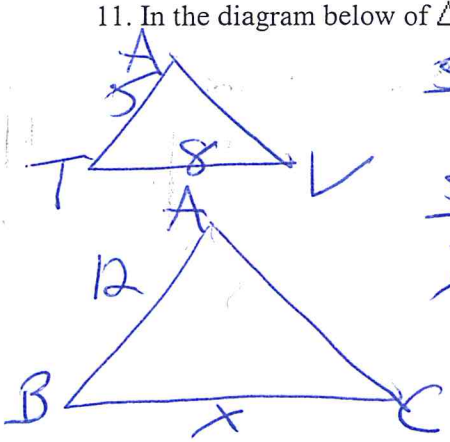






$\frac{2}{9} = \frac{3}{x}$ $\frac{2x}{2} = \frac{27}{2}$ $x = 13.5$

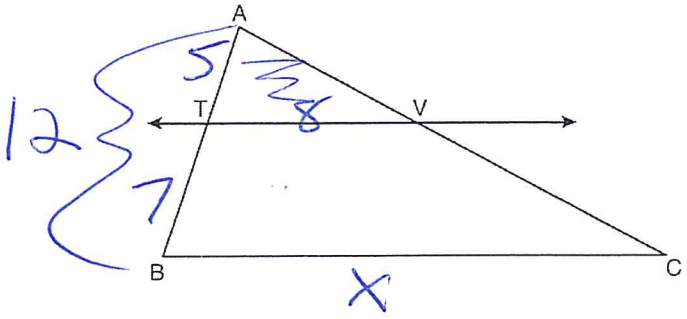
11. In the diagram below of $\triangle ABC$, $\overleftrightarrow{TV} \parallel \overline{BC}$, $\overline{AT} = 5$, $\overline{TB} = 7$, and $\overline{TV} = 8$, find $\overline{BC}$



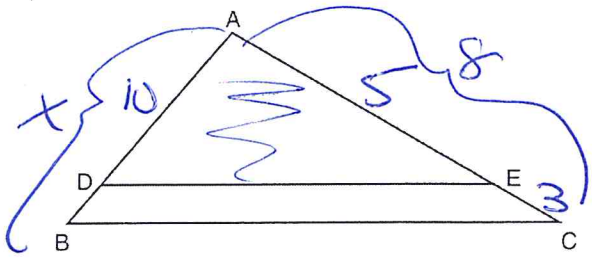
$\frac{5}{12} = \frac{8}{x}$

$\frac{5x}{5} = \frac{96}{5}$

$x = 19.2$



12. In the diagram of $\triangle ABC$ shown below, $\overline{DE} \parallel \overline{BC}$.

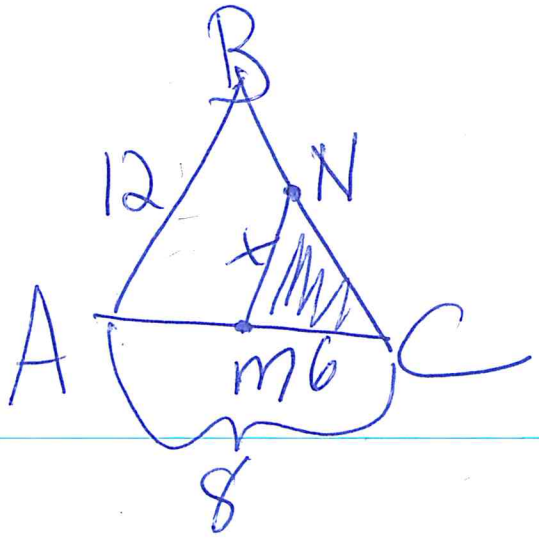


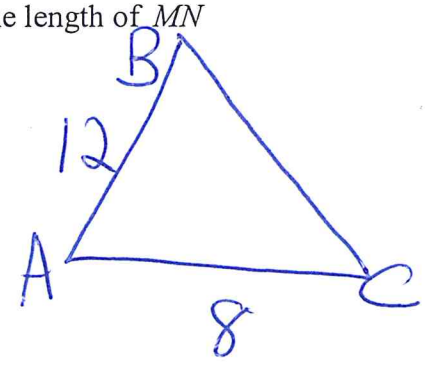
If $\overline{AE} = 5$, $\overline{EC} = 3$, and $\overline{AD} = 10$, find $\overline{AB}$

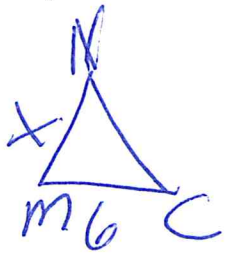
$\frac{\text{top}}{\text{top}} = \frac{\text{side}}{\text{side}}$

$\frac{10}{5} = \frac{x}{8}$ $\quad \frac{5x}{5} = \frac{80}{5}$ $\quad x = 16$

13. In triangle ABC, M is a point on $\overline{AC}$ and N is a point on $\overline{CB}$ such that $\overline{MN} \parallel \overline{AB}$ If $\overline{AC} = 8$, $\overline{AB} = 12$, and $\overline{CM} = 6$. Find the length of $\overline{MN}$







$\frac{12}{x} = \frac{8}{6}$ $\quad \frac{8x}{8} = \frac{72}{8}$

$x = 9$