

**You may use calculators and your small journal. SHOW ALL WORK FOR CREDIT!!*

* EXACT ANSWERS ONLY!!!!!!!

Solve each proportion.

a) $\frac{x-3}{5} = \frac{32}{x+3}$

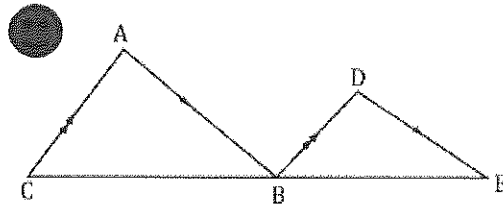
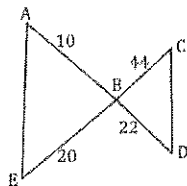
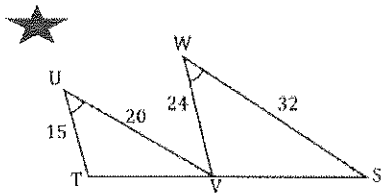
b) $\frac{3(x-7)}{5} = \frac{2}{3}$

c) $\frac{3x-5}{3\sqrt{5}} = \frac{4\sqrt{5}}{9}$

d) If $2x-3y=0$, then $\frac{x}{y} =$

e) $\frac{2x-1}{3x} = \frac{x}{3x+1}$

II. Determine whether the triangles are similar. If so, state the reason.

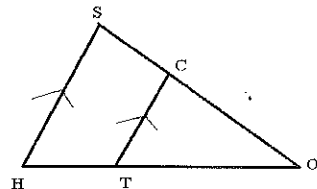


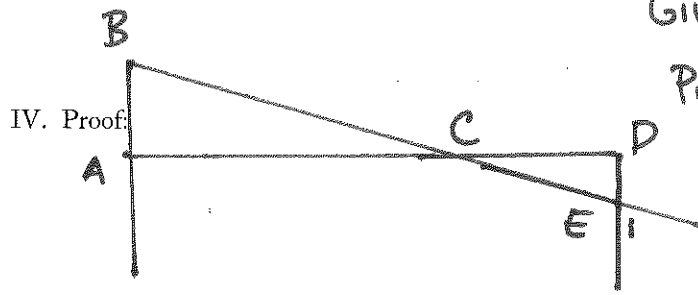
III. Use the information given and the figures to the right to fill in the blanks.

a. If $SC = 4$, $CO = 11$, and $HT = 8$, then $TO =$ _____

b. If $SO = 10$, $CO = 7$, $HT = x$, and $HO = 20$, then $TO =$ _____

c. If $CT = 15$, and $SC = 8$, $OC = 12$, then $SH =$ _____

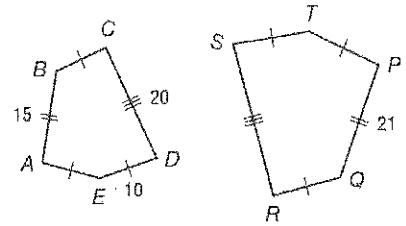




Given: $\angle C \cong \angle E$
 Prove: $\triangle ABC \sim \triangle DEC$

V. Solve each word problem.

a) If $ABCDE \sim PQRST$, find the perimeter of the larger polygon.



b) A lighthouse casts a 128-foot shadow. A nearby lamppost that measures 5 feet 3 inches casts an 8-foot shadow

i) Draw a picture that represents this scenario.

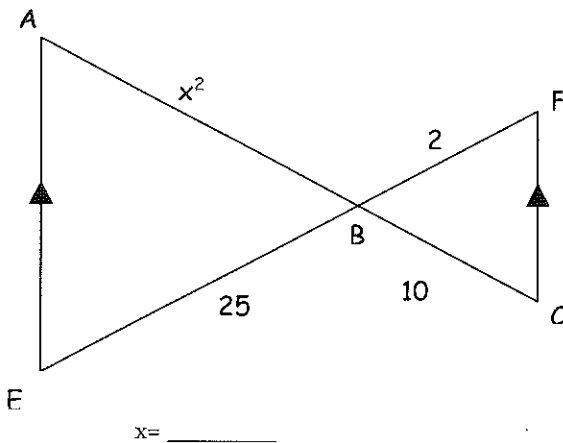
ii) Write a proportion that can be used to determine the height of the lighthouse.

iii) What is the height of the lighthouse?

c) In the first half of a basketball game, one of the teams took 12 free throws and made 10 of them. If the team takes a total of 30 free throws in the game, predict how many they will make. Set up a proportion to show your work.

VI. Solve for x and y.

8.



9. $AD = 12$. Perimeter of $\triangle AEB = 12$.

