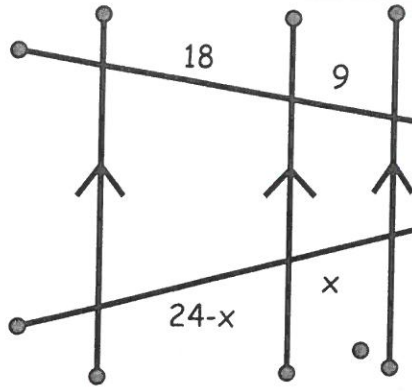
Station I Problems: Copy Problems & Solutions Front to Back

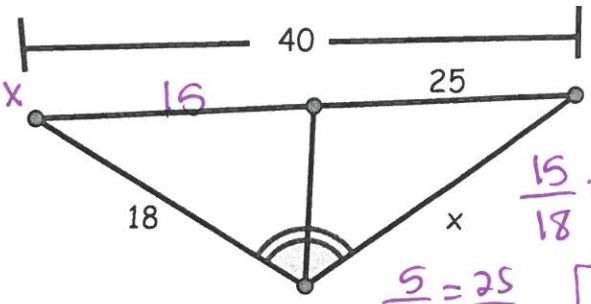


$\frac{18}{9} = \frac{24-x}{x}$

$18x = 216 - 9x$

$27x = 216$

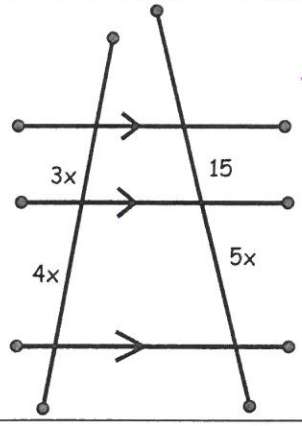
$x = 8$



$\frac{15}{18} = \frac{25}{x}$

$\frac{5}{6} = \frac{25}{x}$

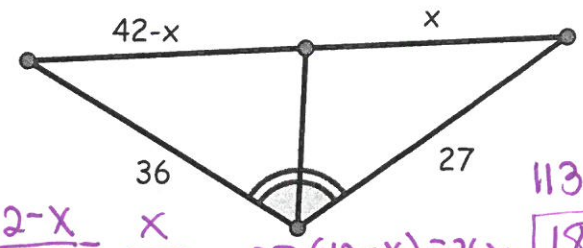
$x = 30$



$\frac{3x}{4x} = \frac{15}{5x}$

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

$x = 4$



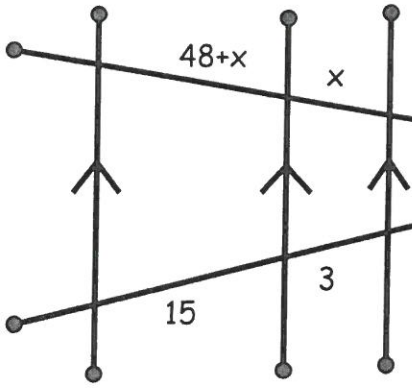
$\frac{42-x}{36} = \frac{x}{27}$

$27(42-x) = 36x$

$1134 - 27x = 36x$

$1134 = 63x$

$18 = x$



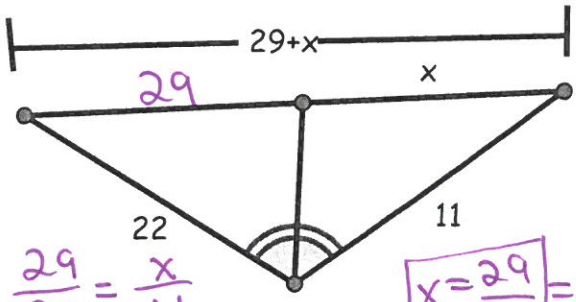
$\frac{x}{48+x} = \frac{3}{15}$

$\frac{x}{48+x} = \frac{1}{5}$

$5x = 48 + x$

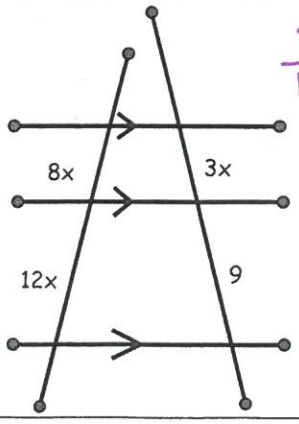
$4x = 48$

$x = 12$



$\frac{29}{22} = \frac{x}{11}$

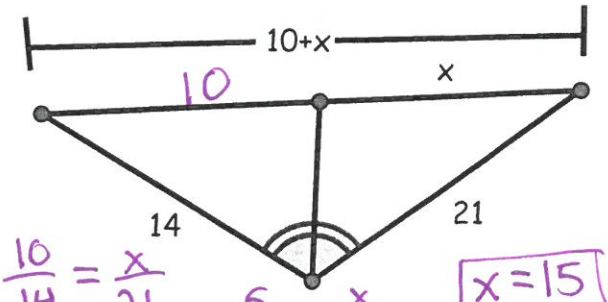
$x = \frac{29}{2} = 14.5$



$\frac{8x}{12x} = \frac{3x}{9}$

$\frac{2}{3} = \frac{x}{3}$

$x = 2$

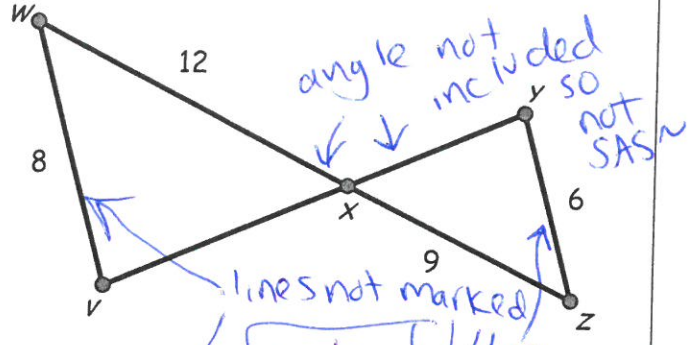


$\frac{10}{14} = \frac{x}{21}$

$\frac{5}{7} = \frac{x}{21}$

$x = 15$

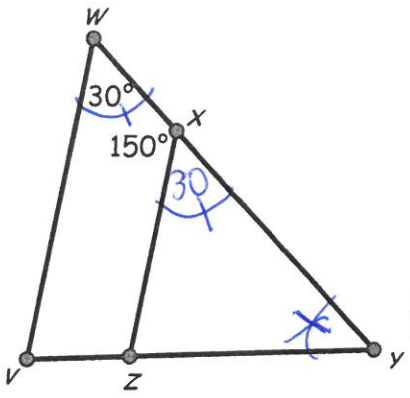
Station 2 Problems: Copy Problems & Solutions Front to Back



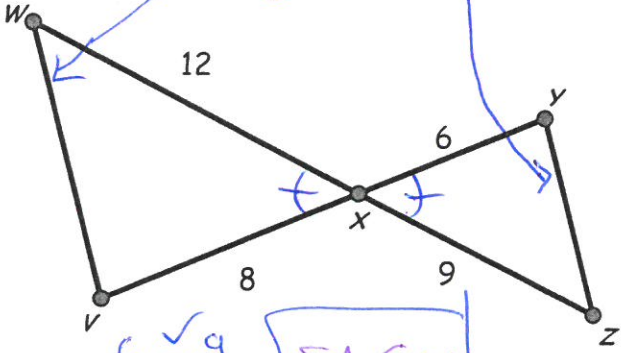
angle not included so not SAS~

lines not marked // so not AA~

not ~

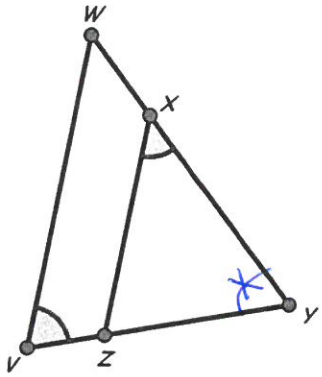


AA~

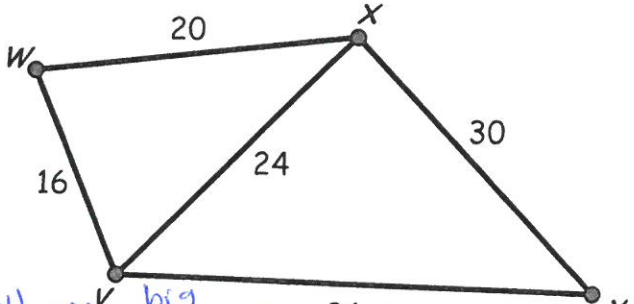


$\frac{6}{8} = \frac{9}{12}$ ✓

SAS~



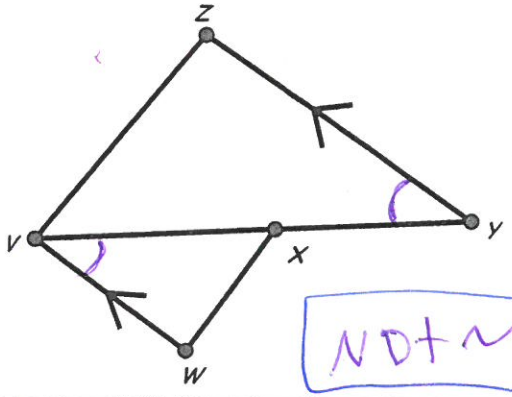
AA~



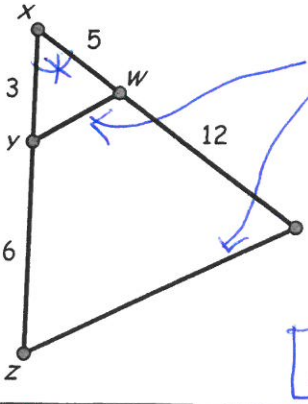
Small middle big

$\frac{16}{24} = \frac{20}{30} = \frac{24}{36}$ ✓

SSS~



NOT~

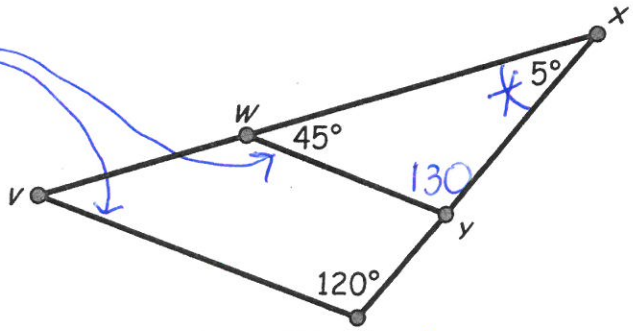


$\frac{3}{9} \neq \frac{5}{17}$

so not SAS~

lines not marked // so not AA~

NOT~

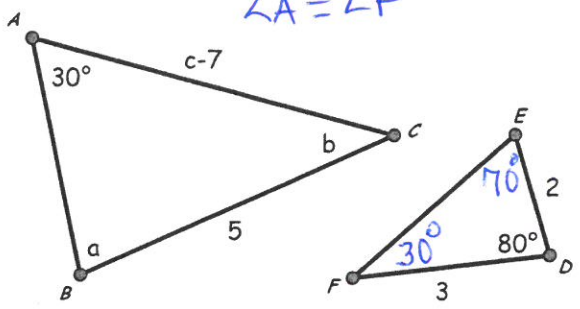


NOT~

Station 3 Problems: Copy NOTHING on back

$\triangle ABC \sim \triangle FED$

$\angle A \cong \angle F$



$a = 70°$

$b = 80°$

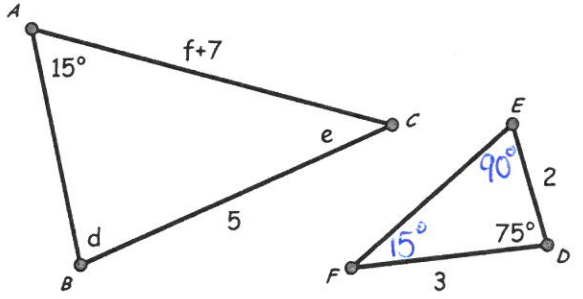
$\frac{5}{2} = \frac{c-7}{3}$

$15 = 2c - 14$

$29 = 2c$

$c = 14.5$

$\triangle ABC \sim \triangle FED$



$d = 90°$

$e = 75°$

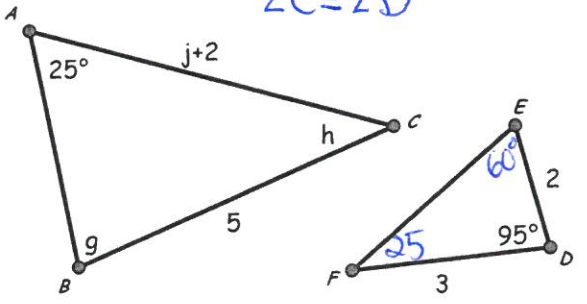
$\frac{5}{2} = \frac{f+7}{3}$

$15 = 2f + 14$

$f = 1/2$

$\triangle ABC \sim \triangle FED$

$\angle C \cong \angle D$



$g = 60°$

$h = 95°$

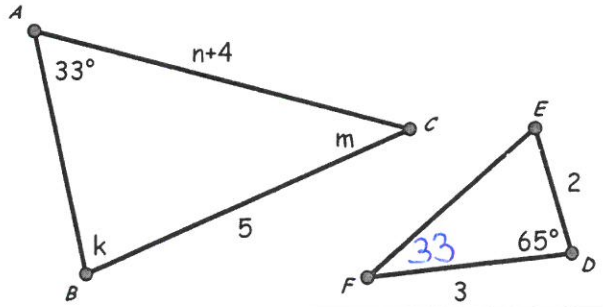
$\frac{j+2}{3} = \frac{5}{2}$

$2j + 4 = 15$

$2j = 11$

$j = \frac{11}{2}$

$\triangle ABC \sim \triangle FED$



$k = 82°$

$m = 65°$

$\frac{n+4}{3} = \frac{5}{2}$

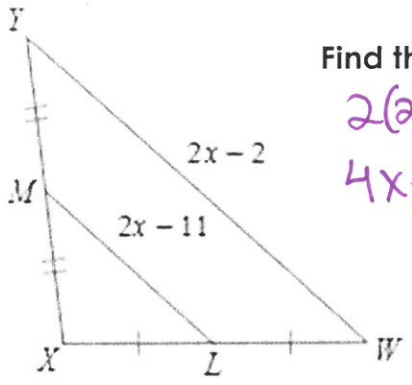
$2n + 8 = 15$

$2n = 7$

$n = 7/2$

Station 4 Problems:

Find the length of ML.



$2(2x-11)=2x-2$

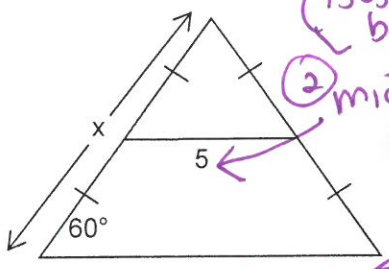
$4x-22=2x-2$

$2x=20$

$x=10$

$ML=9$

Find the value of x.

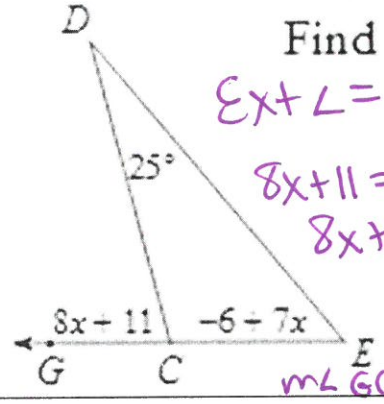


① Equilateral (isosceles but ≅ base ∠s = 60)

② midsegment so // side is 2(5) = 10

③ $x=10$

Find $m\angle GCD$.



Ext∠ = sum of two remote int∠s

$8x+11=25+-6+7x$

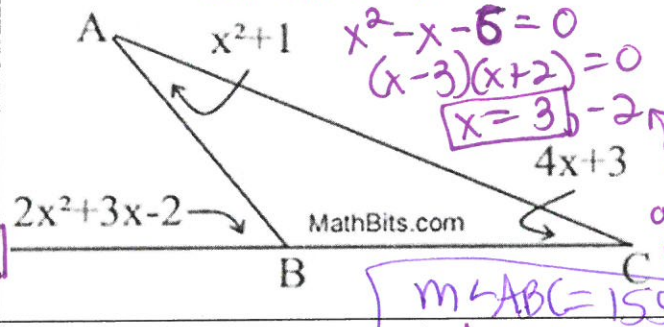
$8x+11=19+7x$

$x=8$

$m\angle GCD=75$

$m\angle GCD=8(8)+11$

Find $m\angle ABC$.



Ext∠ = sum of two remote int∠s

$2x^2+3x-2=x^2+1+4x+3$

$x^2-x-6=0$

$(x-3)(x+2)=0$

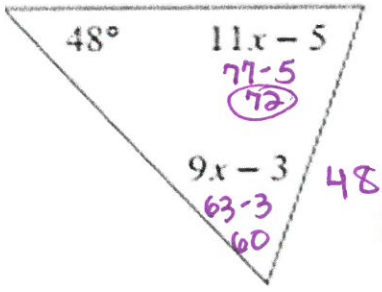
$x=3$ -2

gives ∠ angle measures

$m\angle ABC=155$

marked

Find the measure of the largest angle.



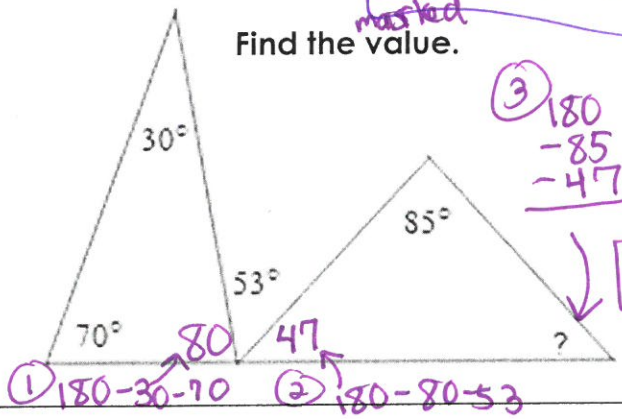
$48+20x-8=180$

$20x=140$

$x=7$

$72°$ = largest ∠

Find the value.

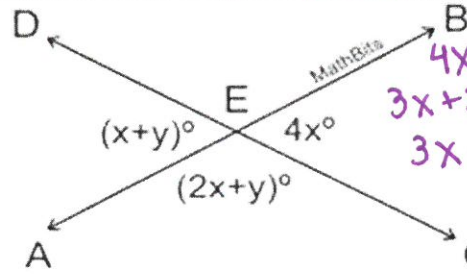


① $180-30-70$

② $180-80-53$

③ $180-85-47$

$48°$



$\overline{AB}$ and $\overline{CD}$

Find x, y and $m\angle AEC$.

$4x=x+y$

$3x+2y=180$

$3x-y=0$

$3x+2y=180$

$-3x+y=0$

$3y=180$

$y=60$

$4x=x+60$

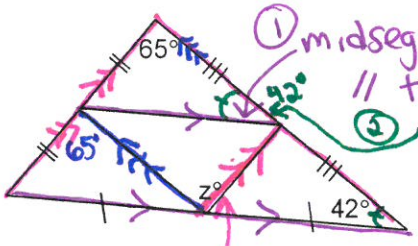
$3x=60$

$x=20$

$m\angle AEC=2(20)+60$

$m\angle AEC=100°$

Find the value of z.



① midsegment so // to 3rd side

② corresponding ∠ are ≅ if lines // so 42°

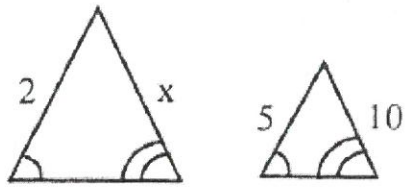
③ midsegment so // to 3rd side

④ 65° is corresp. ∠

$z=65°$

Station 5 Problems:

a) What postulate or theorem proves the triangles are ~~congruent~~ Similar? b) Find x.



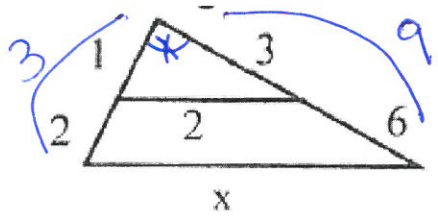
AA~

$\frac{2}{5} = \frac{x}{10}$

$5x = 20$

$x = 4$

a) What postulate or theorem proves the triangles are ~~congruent~~ Similar? b) Find x.

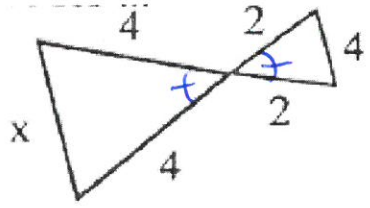


SAS~

$\frac{1}{3} = \frac{3}{9}$ ✓ and included angle ("sandwiched" angle)

$x = 6$

a) What postulate or theorem proves the triangles are ~~congruent~~ Similar? b) Find x.

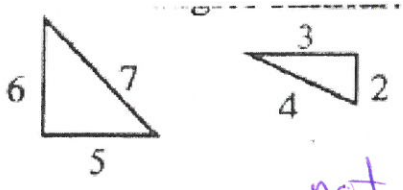


SAS~

$\left(\frac{2}{4} = \frac{2}{4}\right.$ and included angle between them$)$

$x = 8$

What postulate or theorem proves the triangles are ~~congruent~~ Similar?

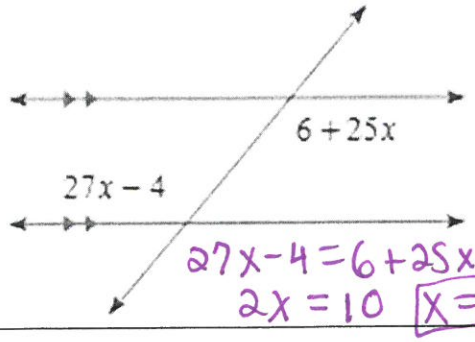


none

not SSS~ because $\frac{2}{5} \neq \frac{3}{6} \neq \frac{4}{7}$

Station 6 Problems:

Find x. Also, determine what kind of angles are shown in the diagram.

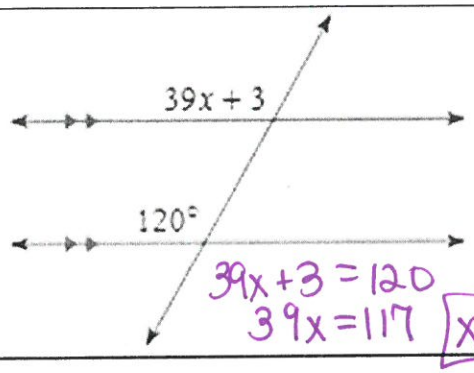


$27x - 4 = 6 + 25x$

$2x = 10$ $\boxed{x = 5}$

(C) Corresponding angles	(K) Same side interior angles
(A) Linear pair angles	(E) Alternate interior angles

Find x. Also, determine what kind of angles are shown in the diagram.

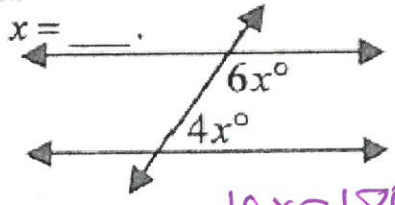


$39x + 3 = 120$

$39x = 117$ $\boxed{x = 3}$

(D) Corresponding angles	(A) Same side interior angles
(E) Linear pair angles	(L) Alternate interior angles

Find x. Also, determine what kind of angles are shown in the diagram.

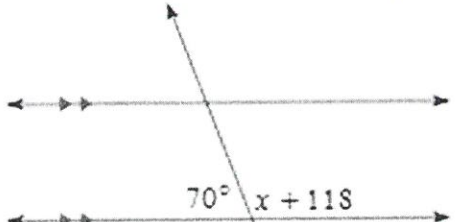


$10x = 180$

$\boxed{x = 18}$

(C) Corresponding angles	(K) Same side interior angles
(A) Linear pair angles	(E) Alternate interior angles

Find x. Also, determine what kind of angles are shown in the diagram.



$x + 188 = 180$

$\boxed{x = -8}$

(D) Corresponding angles	(A) Same side interior angles
(E) Linear pair angles	(L) Alternate interior angles