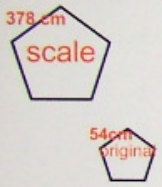
Chapter 7 Similarity and Transformations Answer Key.

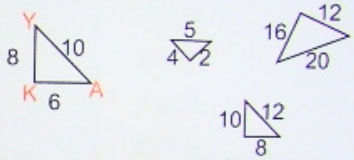
Review

Scale factor, similarity, line of symmetry, rotational symmetry, rotations, reflections, translations

1. An original picture is 3cm wide and 5cm long. If the picture is enlarged by a scale factor of 1.7, how long is the width?
2. Determine the scale factor.

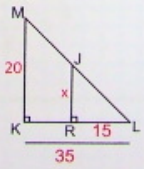


3.

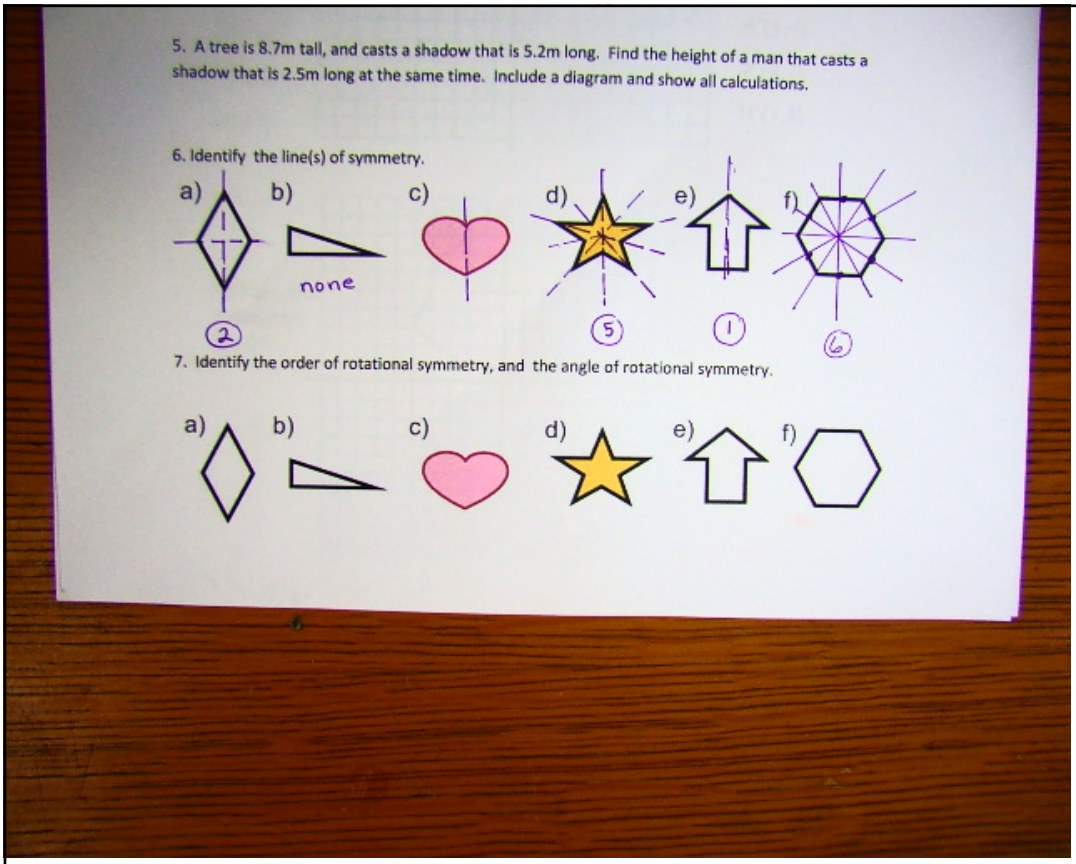


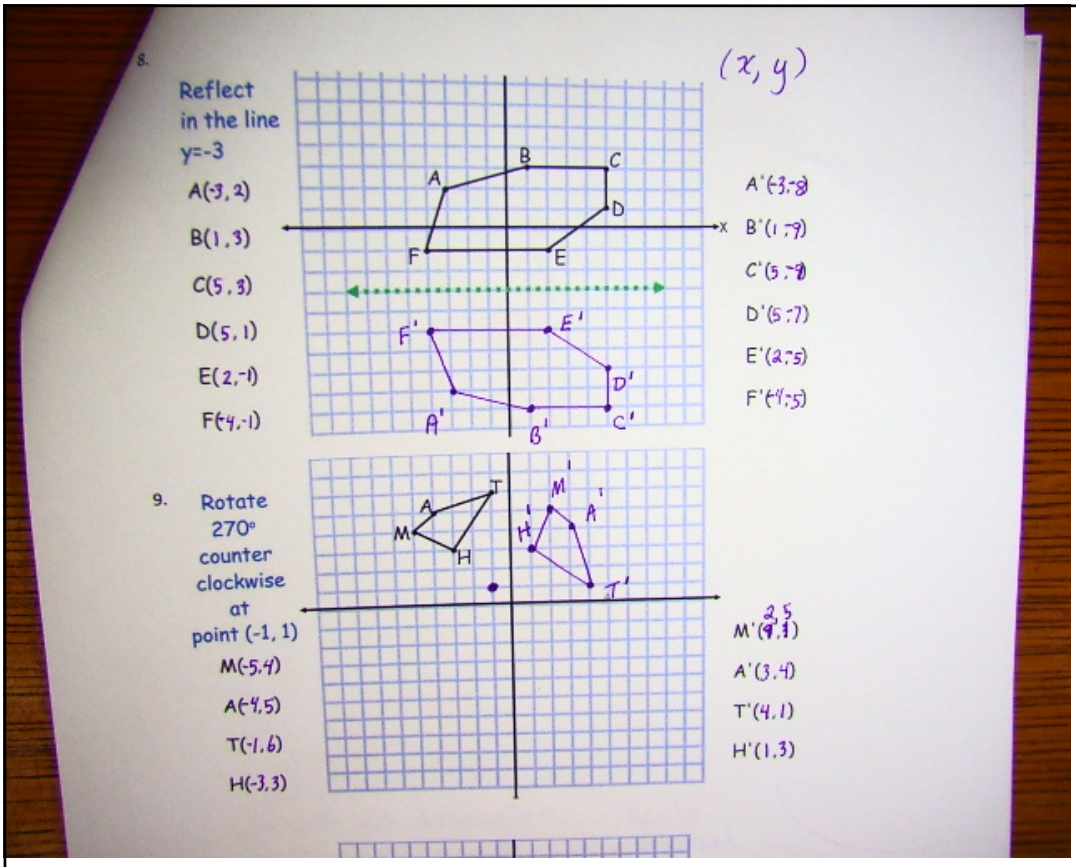
Which triangle is similar to YAK?

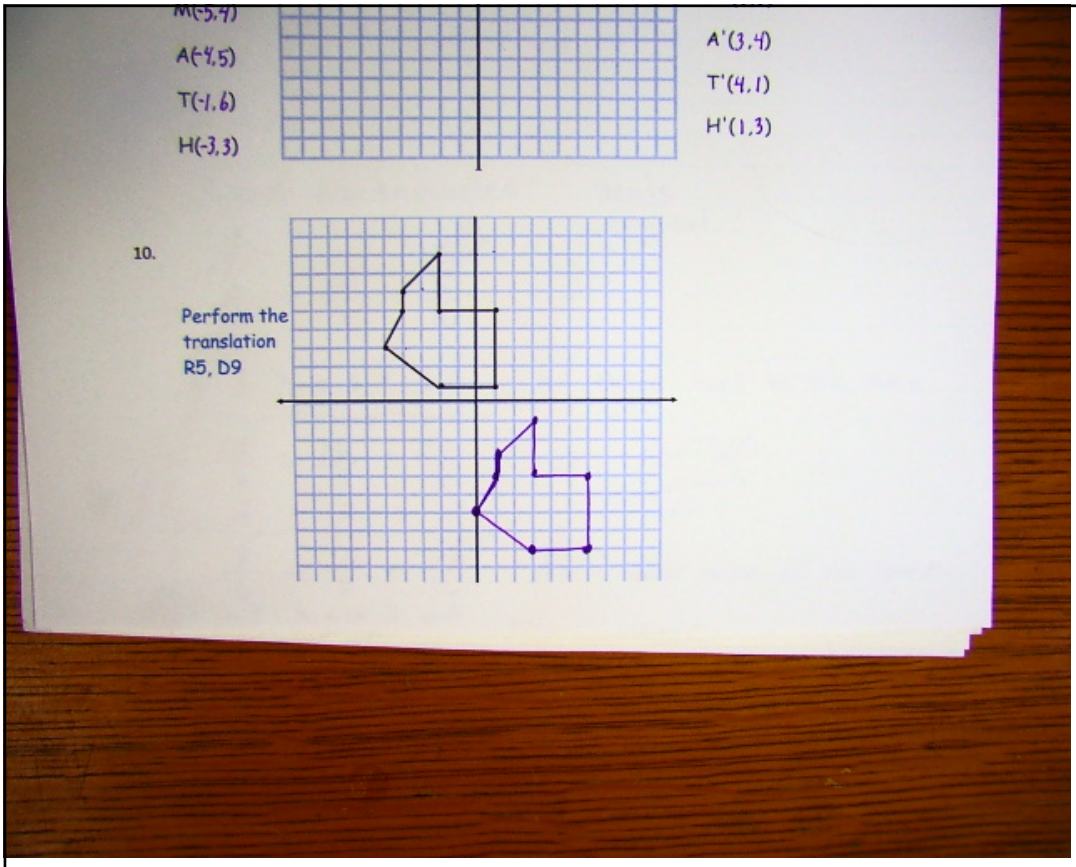
4. a) Write the similarity statement.
   b) Write the ratios.
   c) Fill in the ratios.
   d) Solve for x.

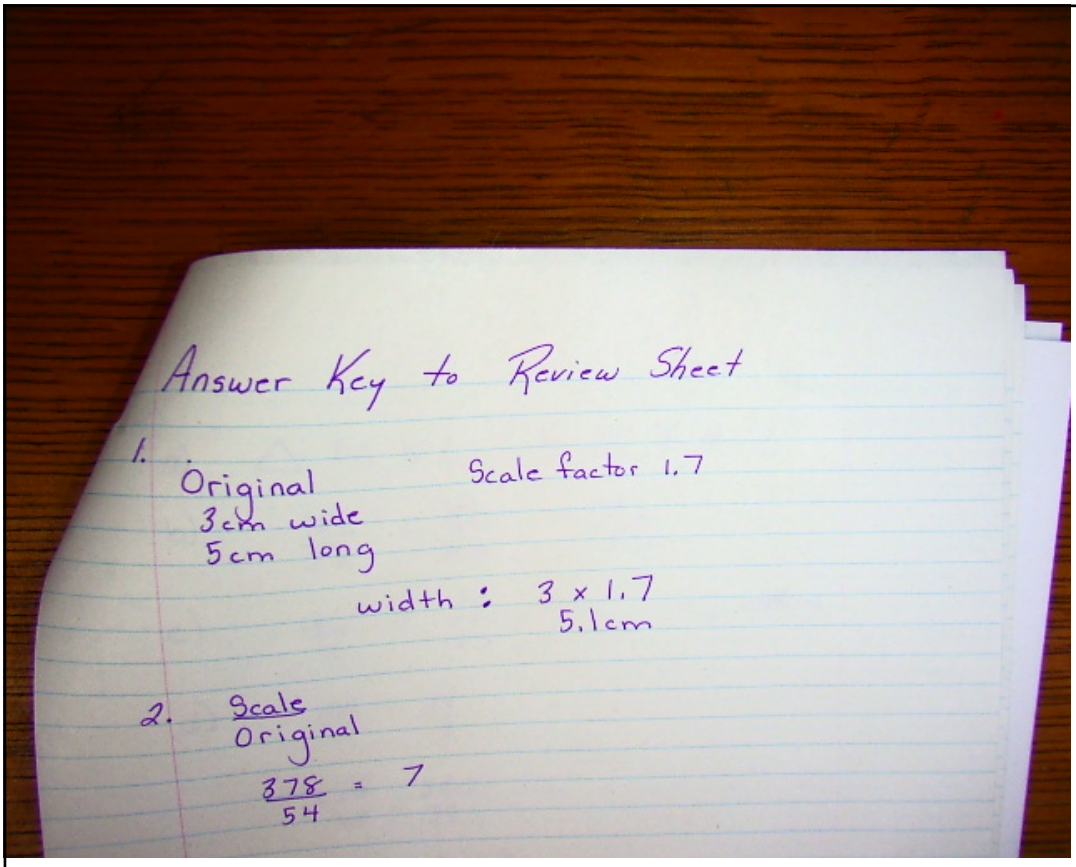


5. A tree is 8.7m tall, and casts a shadow that is 5.2m long. Find the height of a man that casts a shadow that is 2.5m long at the same time. Include a diagram and show all calculations.


5. A tree is 8.7m tall, and casts a shadow that is 5.2m long. Find the height of a man that casts a shadow that is 2.5m long at the same time. Include a diagram and show all calculations.
6. Identify the line(s) of symmetry.
a)
b)
c)
d)
e)
f)
none
2
5
1
6
7. Identify the order of rotational symmetry, and the angle of rotational symmetry.
a)
b)
c)
d)
e)
f)

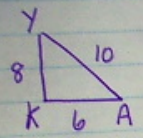

8.
Reflect in the line y=-3
A(-3, 2)
B(1, 3)
C(5, 3)
D(5, 1)
E(2, -1)
F(-4, -1)
(x, y)
A'(-3, -8)
B'(1, -7)
C'(5, -7)
D'(5, -7)
E'(2, -5)
F'(-4, -5)
9.
Rotate 270° counter clockwise at point (-1, 1)
M(-5, 4)
A(-4, 5)
T(-1, 6)
H(-3, 3)
M'(4, 1)
A'(3, 4)
T'(4, 1)
H'(1, 3)


M(-5,4)
A(-4,5)
T(-1,6)
H(-3,3)
A'(3,4)
T'(4,1)
H'(1,3)
10.
Perform the translation R5, D9


Answer Key to Review Sheet
1.
Original
3cm wide
5cm long
Scale factor 1.7
width : 3 x 1.7
5.1cm
2. Scale / Original
378/54 = 7

$\frac{378}{54} = 7$

3.



original

Check all triangles. scale original

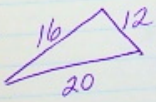
$\frac{\text{smallest side}}{\text{smallest side}} = \frac{4}{8} = \frac{\text{Largest side}}{\text{Largest side}}$

$\frac{2}{6} = \frac{4}{8} = \frac{5}{10}$

$0.\overline{3} \neq 0.5 = 0.5$

All three must be the same

$\frac{12}{6} = \frac{16}{8} = \frac{20}{10}$

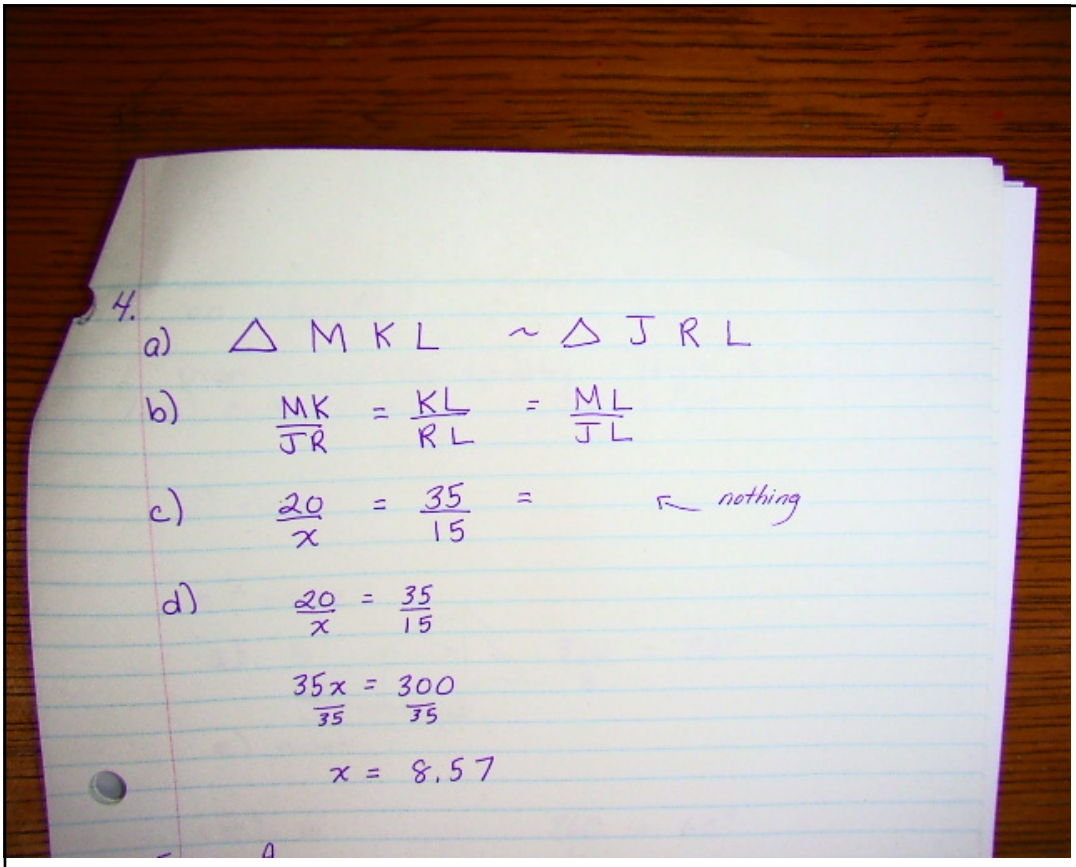


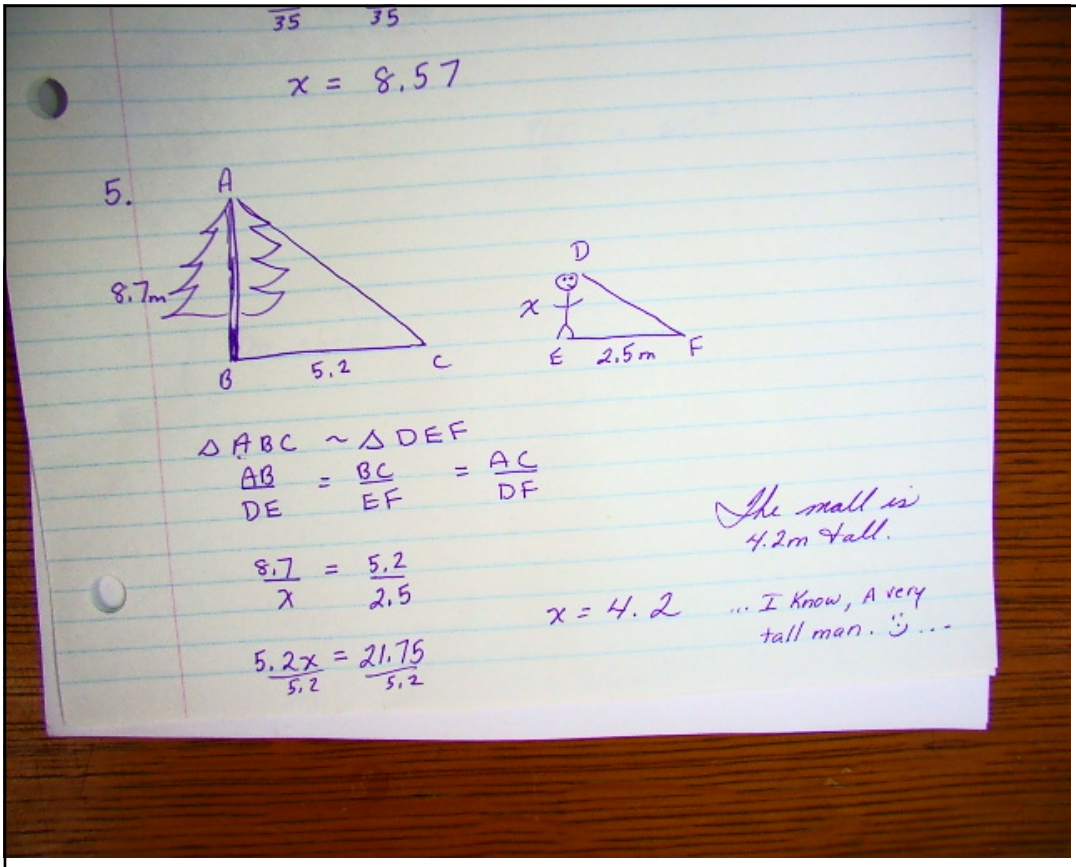
$2 = 2 = 2$

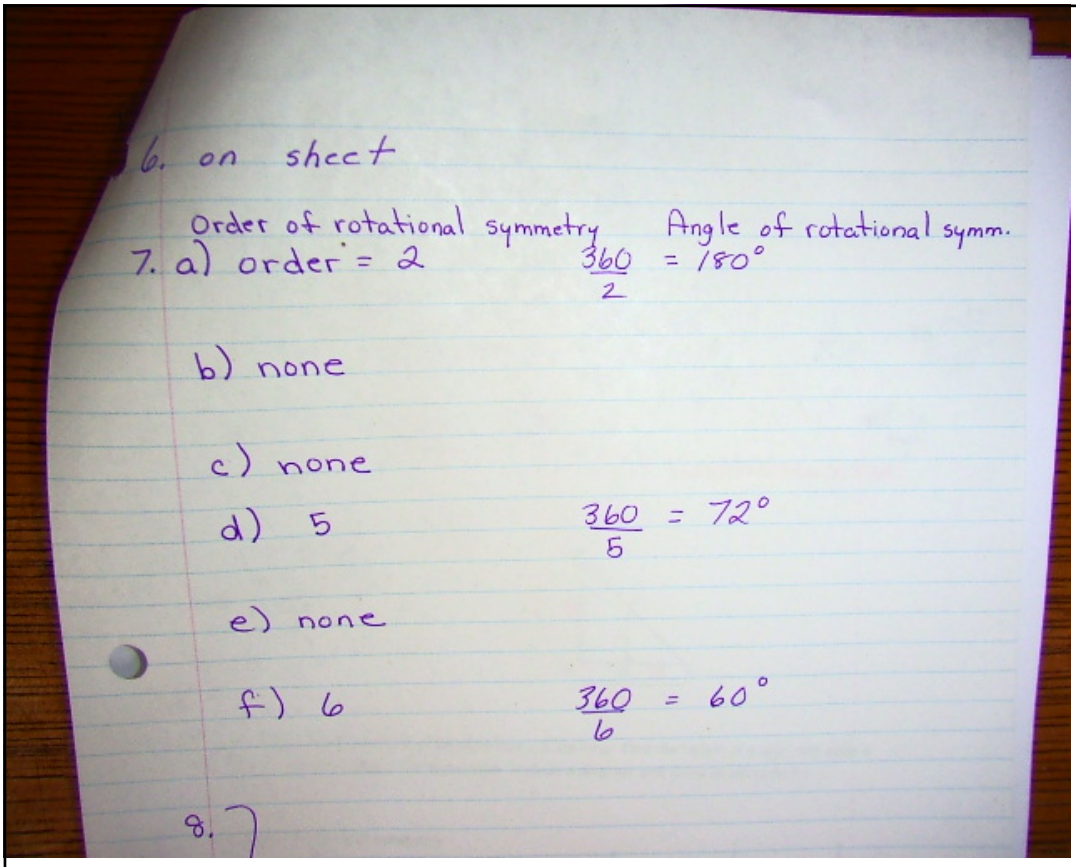
All three must be the same.

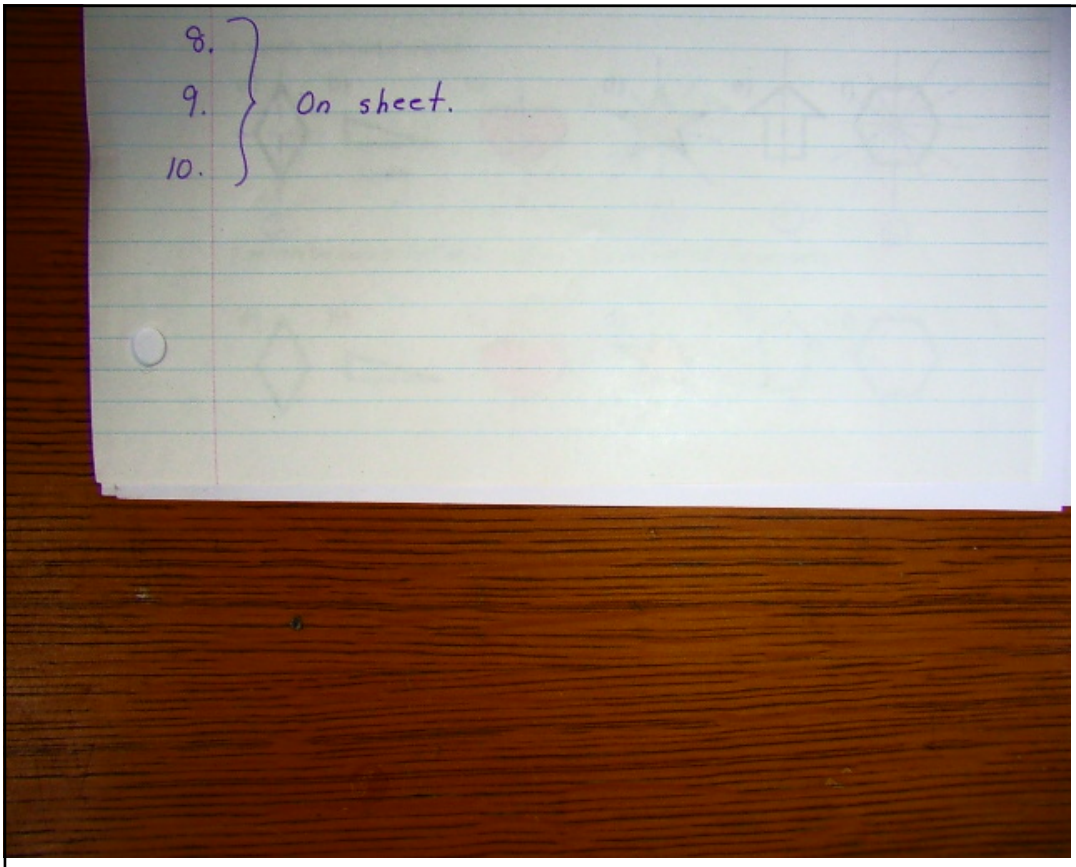
$\frac{8}{6} = \frac{10}{8} = \frac{12}{10}$

$1.\overline{3} \neq 1.25 \neq 1.2$


4.
a) △MKL ~ △JRL
b) MK/JR = KL/RL = ML/JL
c) 20/x = 35/15 = nothing
d) 20/x = 35/15
35x/35 = 300/35
x = 8.57


35 35
x = 8.57
5.
A
8.7m
B
5.2
C
D
x
E
2.5m
F
△ABC ~ △DEF
AB/DE = BC/EF = AC/DF
8.7/x = 5.2/2.5
5.2x/5.2 = 21.75/5.2
x = 4.2
The mall is 4.2m tall.
... I know, A very tall man. ☺ ...


6. on sheet
Order of rotational symmetry
Angle of rotational symm.
7. a) order = 2
360/2 = 180°
b) none
c) none
d) 5
360/5 = 72°
e) none
f) 6
360/6 = 60°
8.



Apr 8-9:29 AM