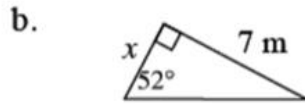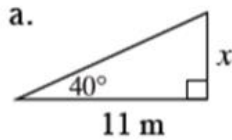**Show all work neatly, and circle your answers.**
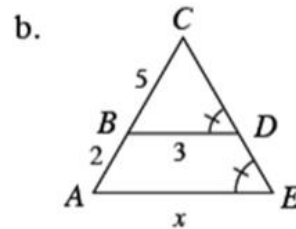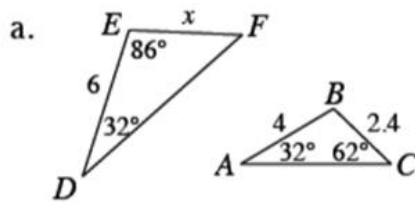
CL 4-122.    Solve for the missing side length or angle below. Make sure that you show all steps.

a.



40°

11 m

$x$

b.



$x$

52°

7 m

c.



$\theta$

5

5
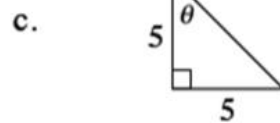
CL 4-123.    Use a flowchart to show how you know the triangles are similar. Then find the value of each variable.

a.



E      $x$      F

86°

6

32°

D

B

4      2.4

32°  62°

A          C

b.



C

5

B        D

2        3

A            E

$x$

CL 4-124.    Salvador has a hot dog stand 58 meters from the base of the Space Needle in Seattle. He prefers to work in the shade and knows that he can calculate when his hotdog stand will be in the shade if he knows the height of the Space Needle. To measure its height, Salvador stands at the hotdog stand, gets out his clinometer, and measures the angle to the top of the Space Needle to be 80°. Salvador's eyes are 1.5 meters above the ground. Assuming that the ground is level between the hotdog stand and the Space Needle, how tall is the Space Needle?

**CL 4-125.** Use the diagram at right to answer the questions below.
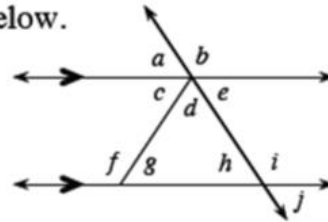
a. State the name of the geometric relationship between the angles below. Also describe the relationship between the angle measures, if one exists.



i. $\angle a$ and $\angle h$    ii. $\angle b$ and $\angle e$

iii. $\angle c$ and $\angle g$    iv. $\angle g$, $\angle d$, and $\angle h$

b. Find the measure of each angle listed below and justify your answer. Let $m\angle c = 32°$ and $m\angle e = 55°$ in the figure above.

i. $m\angle j$    ii. $m\angle d$    iii. $m\angle a$    iv. $m\angle g$

**CL 4-126.** ~~Draw a pair of axes in the center of a half-sheet of graph paper. Then draw the figure at right and~~ perform the indicated transformations. For each transformation, label the resulting image $A'B'C'D'E'$.
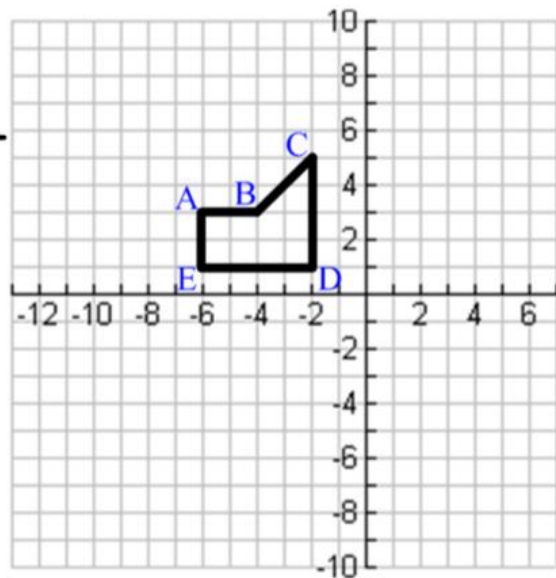


a. Rotate ABCDE 180° ↻ around the origin.

b. Rotate ABCDE 90°↺ around the origin.

c. Reflect ABCDE across the y-axis.

d. Translate ABCDE up 5, left 7.

**CL 4-127.** Kiyomi has 4 pairs of pants (black, peach, gray, and cream), and she has 5 shirts (white, red, teal, black, and lavender).



a. If any shirt can be worn with any pair of pants, represent the sample space of all possible outfits with both a probability area model and a tree diagram. How many outfits does she own?

** You can abbreviate the colors using the first letter. Do your models on the next page**

b. The closet light is burned out, so Kiyomi must randomly select a pair of pants and a shirt. What is the probability that she will wear something black?

CL 4-128. In a certain town, 45% of the population has dimples and 70% has a widow's peak (a condition where the hairline above the forehead makes a "V" shape). Assuming that these physical traits are independently distributed, what is the probability that a randomly selected person has both dimples and a widow's peak? What is the probability that he or she will have neither? Use a probability area model or a tree diagram to represent this situation.

CL 4-129. ~~Trace each figure onto your paper and label the sides with the given measurements.~~



3" base         10" base         11" base         8" / 12" base
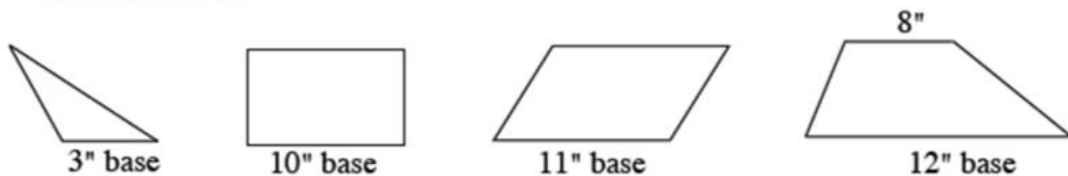
a. On your paper, draw a height that corresponds to the labeled base for each figure.

b. Assume that the height for each figure above is 7 inches. Add this information to your diagrams and find the area of each figure.

CL 4-130. Find the perimeter of each shape below. Assume the diagram in part (b) is a parallelogram.

a.
7 mm
45°

b.
←18 m→
9 m
30 m

c.
7"
6"
60°
11"
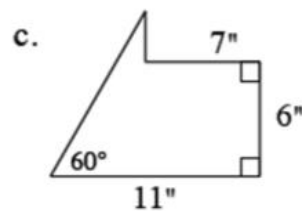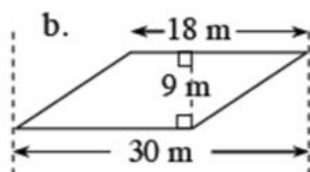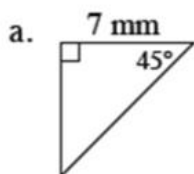
CL 4-131.    For each equation below, solve for $x$.

   a.    $\frac{x}{23} = \frac{15}{7}$

   b.    $(x+2)(x-5) = 6x + x^2 - 5$

   c.    $x^2 + 2x - 15 = 0$

   d.    $2x^2 - 11x = -3$

CL 4-132.    The following questions are part of the grade for this packet – do not skip them!  Take a few minutes to reflect on the closure packet, as well as the work you have done in this chapter.  Be complete and specific in your answers.  If there are things that you need help with, be sure to **SEE YOUR TEACHER OR GO TO MATH HELP BEFORE THE DAY OF THE TEST!**

Which **problems** in the closure packet do you feel confident about?

Which **problems** were difficult?

Make a list of **topics** from the chapter that you feel **you need to practice more**.

Make a list of **topics** from the chapter you feel **you need help with**.