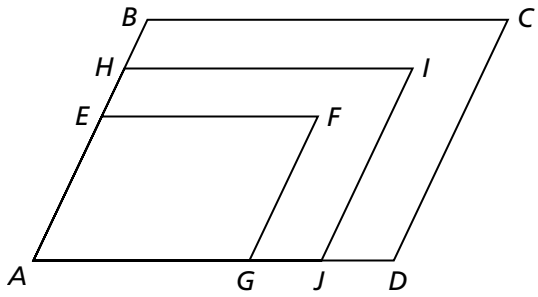
Name _____ Date _____ Class _____

Additional Practice

Investigation 5

Stretching and Shrinking

1. a. Identify the three similar parallelograms in the figure at the right.



b. Name all sets of corresponding sides for the similar parallelograms you found.

c. Name all sets of corresponding angles for the similar parallelograms you found.

2. David is using the shadow method to estimate the heights of three trees in his schoolyard. For each set of data, make a diagram showing the tree, the meterstick and the shadows. Then determine the missing information.

a. Height of tree = ?
Length of shadow of tree = $\frac{9}{2}$ m
Height of meterstick = 1m
Length of meterstick's shadow = $\frac{1}{2}$ m

b. Height of tree = 6.5 m
Length of shadow of tree = ?
Height of meterstick = 1 m
Length of meterstick's shadow = $\frac{3}{4}$ m

Additional Practice *(continued)*

c. Height of tree = 7.2 m
Length of shadow of tree = 2.4 m
Height of meterstick = 1m
Length of meterstick's shadow = ?

d. Height of tree = 7 m
Length of shadow of tree = 3 m
Height of meterstick = ?
Length of meterstick's shadow = $\frac{3}{7}$ m

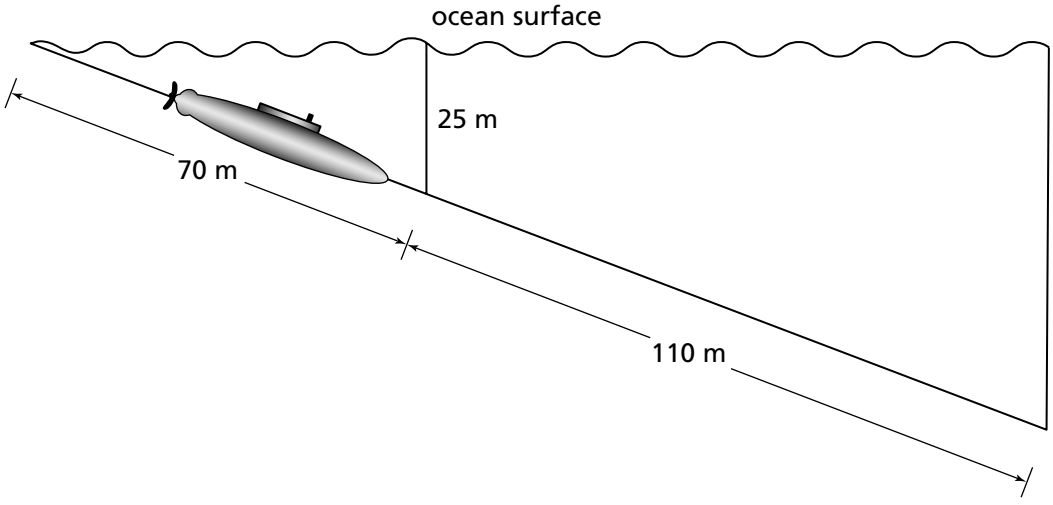
3. Charlotte is using the mirror method to find the heights of objects. Here are some of the measurements she recorded. Make a diagram for each situation, and determine the missing information.

a. Height from the ground to Charlotte's eyes = 1.5 m
Distance from center of mirror to Charlotte = 1.5 m
Distance from center of mirror to shed = 2.5 m
Height of the roof of the shed = ?

b. Height from the ground to Charlotte's eyes = 1.5 m
Distance from center of mirror to Charlotte = 0.5 m
Distance from center of mirror to Charlotte's Great Dane = ?
Height of Charlotte's Great Dane = 1 m

Additional Practice *(continued)*

4. Refer to the diagram below to answer parts (a)–(c).



a. After traveling 70 meters in its dive, the submarine is at a depth of 25 meters. What will the submarine's depth be if it continues its dive for another 110 meters?

b. If the submarine continues on its present course and travels a total of 300 meters in its dive, what will the final depth of the submarine be?

c. If the submarine continues on its present course until a depth of 200 meters, how far will it have traveled?