Section 7-2 8-11, 13, 20-21, 36, 37-41

Selected Answers. 14-19, 22-23, 28-35.

Day 1

8.) polygon ABCF ~ polygon EDCF because they are $\cong$

10.) $\triangle ABC$ is not similar to $\triangle DEF$ because the angles are not congruent

20.) It would take 2 hours to drive from Columbus to Dublin at 55 miles per hour.

36.) $\triangle ABC \sim \triangle IHG \sim \triangle JLK$

→ Show $\cong$ $\angle$s and proportional parts.

$\triangle NMO \sim \triangle PRS$

→ Show $\cong$ $\angle$s and proportional parts.

38.) 2 squares are similar. ALWAYS

40.) Two obtuse triangles are similar. SOMETIMES.

Section 7-2

Day 2

14.) polygon ABCD ~ polygon EFGH

$$\frac{x+1}{8} = \frac{x-1}{5}$$

$$5(x+1) = 8(x-1)$$

$$5x+5 = 8x-8$$

$$13 = 3x$$

$$\frac{13}{3} = x$$

$$\boxed{x = 4\frac{1}{3}}$$

$AB = x+1$

$= 4\frac{1}{3} + 1$

$$\boxed{AB = 5\frac{1}{3}}$$

$CD = x-1$

$= 4\frac{1}{3} - 1$

$$\boxed{CD = 3\frac{1}{3}}$$

Scale factor $\frac{ABCD}{EFGH}$ = scale factor $\frac{AB}{EF}$

$$= \frac{5\frac{1}{3}}{8}$$

use MATH ▶ FRAC to get it simplified

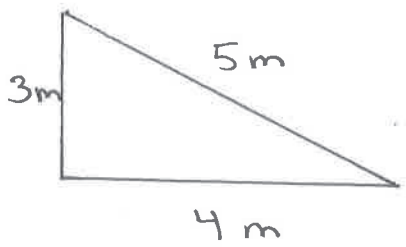
$$\boxed{\text{scale factor } \frac{ABCD}{EFGH} = \frac{2}{3}}$$

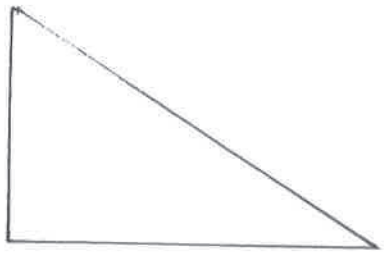
16.) $\triangle ABE \sim \triangle ACD$ $\quad x = 6$

$BC = 8$ $\quad ED = 5$

Scale factor $\frac{\triangle ABE}{\triangle ACD} = \frac{5}{9}$

22.)





original ⟶ enlarged

scale factor = 5 perimeter of larger = ?

Method 1: Find P of smaller, increase by 5 times.

$P_s = 3 + 4 + 5$

$P_s = 12\ m$

$P_{larger} = 5(P_s)$

$= 5(12\ m)$

$\boxed{P_{larger} = 60\ m}$

Method 2: Find new side measures for larger (scale by 5 times), then add for P.

$3_m \times 5 = 15_m$

$4_m \times 5 = 20_m$

$5_m \times 5 = 25_m$

$P = 15_m + 20_m + 25_m$

$\boxed{P_{larger} = 60\ m}$

28.) $\frac{8}{5}$

32.) 12.8

30.) 22.4

34.) 45.75