

I.

Unit Conversions

1. Convert 1091 yards to miles

$$\frac{1091 \text{ yds}}{1 \text{ yds}} \times \frac{3 \text{ ft}}{1 \text{ yds}} \times \frac{1 \text{ mi}}{5280 \text{ ft}} = \frac{3273}{5280} = \boxed{.62 \text{ mi}}$$

2. Convert 76 kilograms to ounces

$$\frac{76 \text{ kg}}{1 \text{ kg}} \times \frac{2.2 \text{ lbs}}{1 \text{ kg}} \times \frac{16 \text{ oz}}{1 \text{ lbs}} = \boxed{2675.2 \text{ oz}}$$

3. Convert 8 days to seconds

$$\frac{8 \text{ days}}{1 \text{ days}} \times \frac{24 \text{ hr}}{1 \text{ days}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{60 \text{ sec}}{1 \text{ min}} = \boxed{691,200 \text{ sec}}$$

4. 3 hectoliters to milliliters

K H D B D C m

~~3000000~~ 3 HL
3000000 mL

5. 10000 centigrams to grams

K H D B D C m

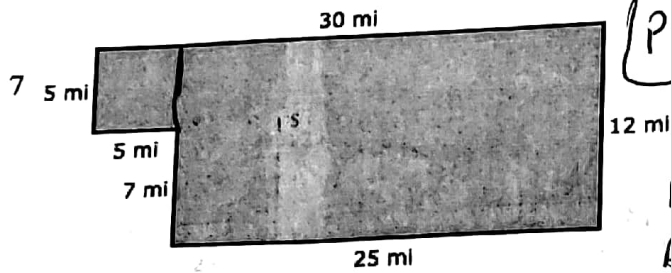
10000 grams

6. 7800 decimeters to decameters

K H D B D C m

78 Dm

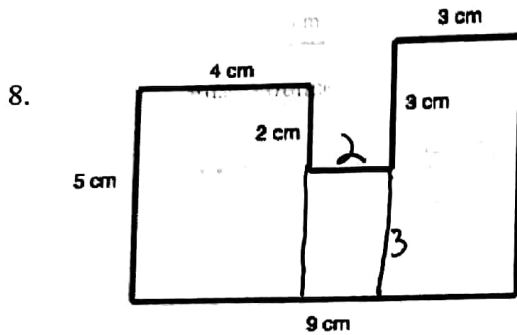
II. Find the Area and Perimeter of Each Figure



$$P = 84 \text{ m}$$

$$A = (5)(7) + (25)(12)$$

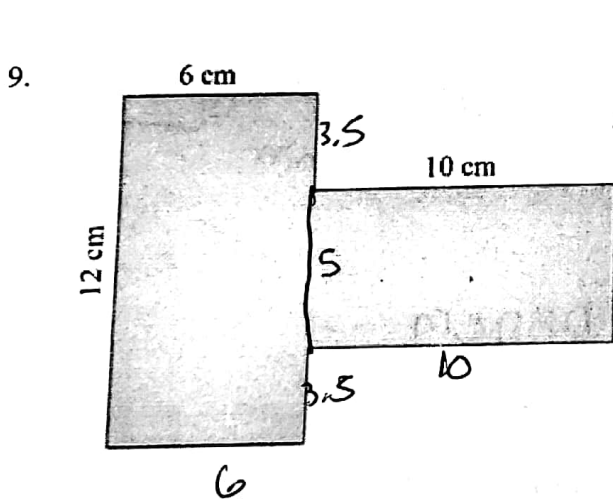
$$A = 35 + 300 = 335 \text{ m}^2$$



$$P = 34 \text{ cm}$$

$$A = (5)(4) + (2)(3) + (3)(6)$$

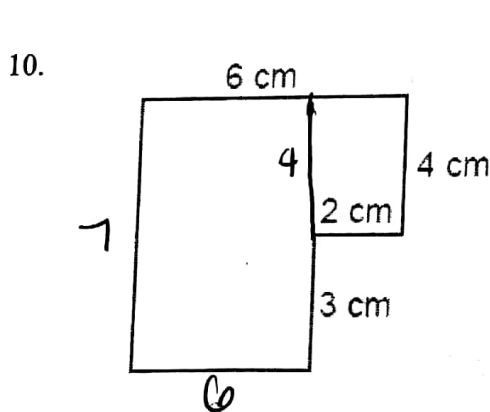
$$20 + 6 + 18 = 44 \text{ cm}^2$$



$$P = 56 \text{ cm}$$

$$A = (12)(6) + (10)(5)$$

$$= 72 + 50 = 122 \text{ cm}^2$$



$$P = 28 \text{ cm}$$

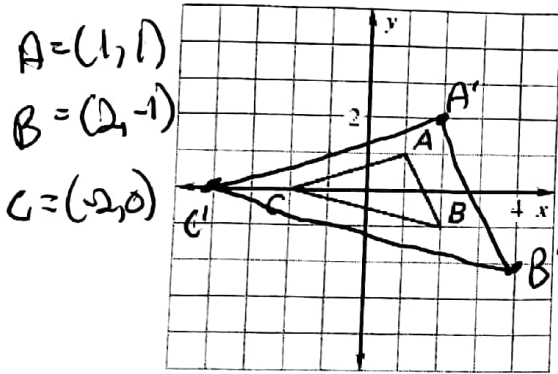
$$A = (7)(6) + (2)(4)$$

$$= 42 + 8 = 50 \text{ cm}^2$$

III. Dilation and Scale

Draw a dilation of the figure using the given scale factor.

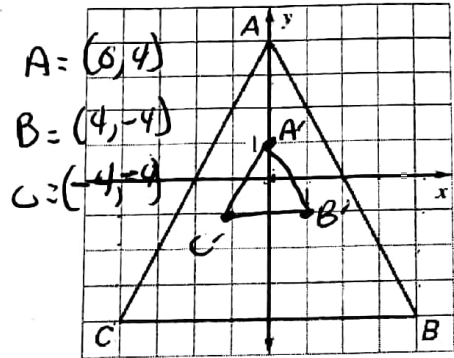
1. $k = 2$



$A = (1, 1)$
 $B = (2, -1)$
 $C = (-2, 0)$

$A' = (2, 2)$
 $B' = (4, -2)$
 $C' = (-4, 0)$

2. $k = \frac{1}{4}$

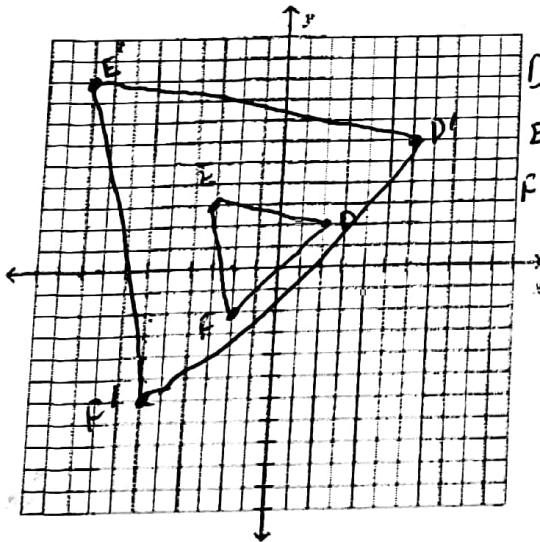


$A = (6, 4)$
 $B = (4, -4)$
 $C = (-4, -4)$

$A' = (1.5, 1)$
 $B' = (1, -1)$
 $C' = (-1, -1)$

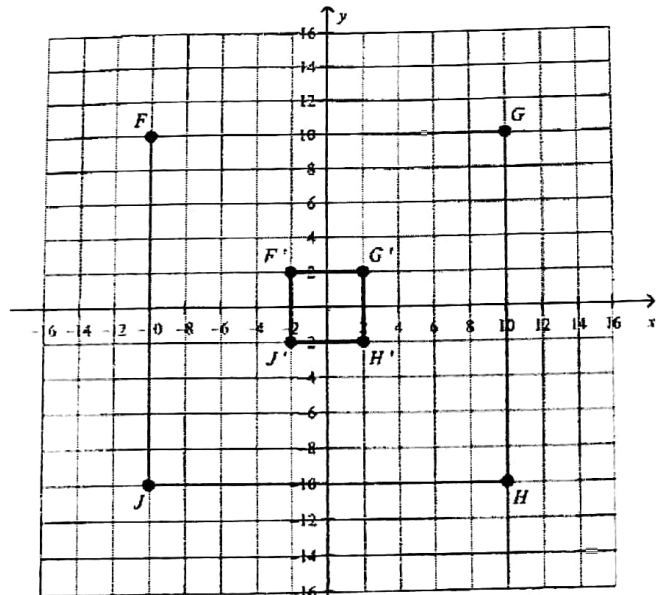
15. Graph the polygon and graph the scaled polygon

$D(2, 2), E(-3, 3), F(-2, -2); k = 3$



$D' = (6, 6)$
 $E' = (-9, 9)$
 $F' = (-6, -6)$

16. Identify the scale factor



$F = (-10, 10)$
 $G = (10, 10)$
 $J = (-10, -10)$
 $H = (10, -10)$

$F' = (-2, 2)$
 $G' = (2, 2)$
 $J' = (-2, -2)$
 $H' = (2, -2)$

Scale factor = $\frac{\text{new}}{\text{old}} = \frac{2}{10} = \frac{1}{5}$