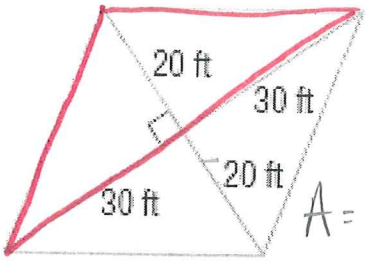
Name: _____

Day 2 Recalling Middle School Math: Area

Find the area

1.



$A = \frac{1}{2}(60)(20)$

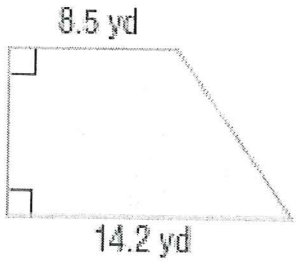
of ≅ figures

$A = 2\left(\frac{1}{2}(60)(20)\right)$

$A = 2(600)$

$A = 1200 ft^2$

2.



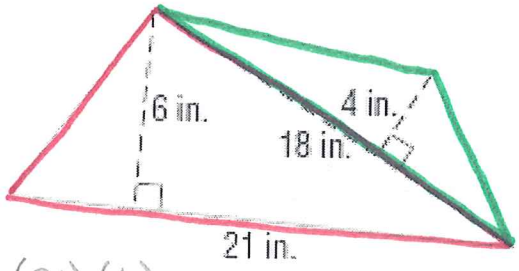
$A = \frac{1}{2}(8.5)(8.5+14.2)$

$A = \frac{1}{2}(8.5)(22.7)$

$A = \frac{1}{2}(192.95)$

$A = 96.475 yd^2$

3.



$A = \frac{1}{2}(21)(6)$

$A = \frac{1}{2}(126)$

$A = 63 in^2$

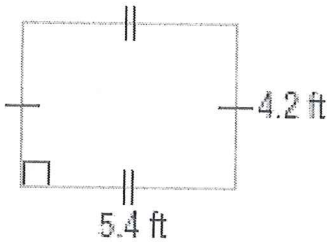
$A = \frac{1}{2}(18)(4)$

$A = \frac{1}{2}(72)$

$A = 36 in^2$

$A = 36 + 63 = 99 in^2$

4.

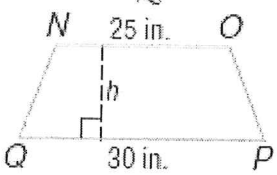


$A = (5.4)(4.2)$

$A = 22.68 ft^2$

Find a missing length.

5. Trapezoid $NOPQ$ has an area of 302.5 square inches. Find the height of $NOPQ$.



$A = \frac{1}{2}h(b_1 + b_2)$

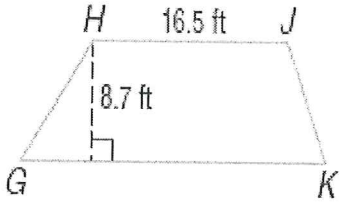
$302.5 = \frac{1}{2}h(25+30)$

$302.5 = \frac{1}{2}h(55)$

$\frac{302.5}{27.5} = \frac{27.5h}{27.5}$

$h = 11 in$

6. If HJ is 16.5 feet, find GK.



$A = 188.35 ft^2$

$188.35 = \frac{1}{2}(8.7)(16.5+b)$

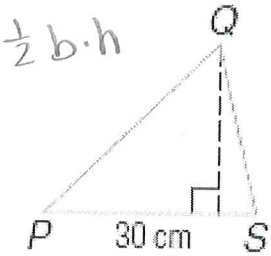
$376.7 = 143.55 + 8.7b$

$\frac{233.15}{8.7} = \frac{8.7b}{8.7}$

$b = 26.8 ft^2$

7. Find the height.

$A = \frac{1}{2}b \cdot h$



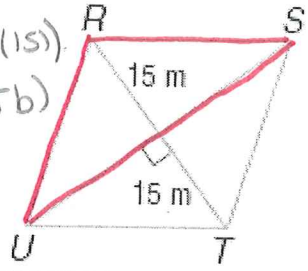
$A = 300 \text{ cm}^2$

$300 = \frac{1}{2}(30) \cdot h$

$300 = 15h$

$h = 20\text{cm}$

8. Rhombus $RSTU$ has an area of 675 square meters. Find SU.



$675 = 2(\frac{1}{2}(b)(15))$

$675 = 2(7.5b)$

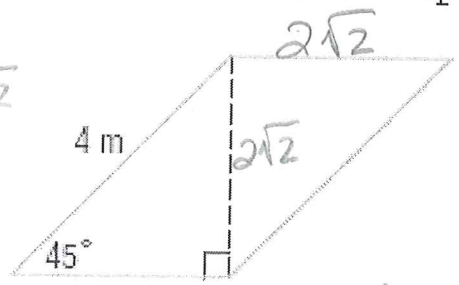
$675 = 15b$

$b = 45$

$\overline{SU} = 45\text{m}$

Find the area. (Use special right triangles)

9.



$\text{hyp} = \text{leg}\sqrt{2}$

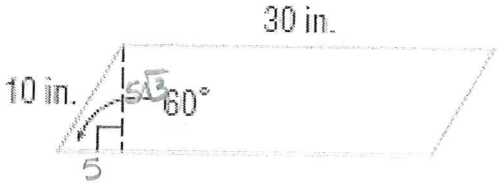
$\frac{4}{\sqrt{2}} = \frac{\text{leg}\sqrt{2}}{\sqrt{2}}$

$\text{leg} = 2\sqrt{2}$

$A = (2\sqrt{2})(2\sqrt{2})$

$A = 8\text{ m}^2$

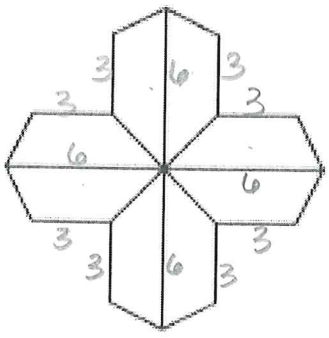
10.



$A = (30)(5\sqrt{3})$

$A = 150\sqrt{3}\text{ in}^2$

STAINED GLASS This stained glass window is composed of 8 congruent trapezoidal shapes. The total area of the design is 72 square feet. Each trapezoid has bases of 3 and 6 feet. Find the height of each trapezoid.



Area of each trapezoid:

$72 \div 8 = 9$

$9 = \frac{1}{2}h(3+6)$

$9 = \frac{1}{2}h(9)$

$\frac{9}{4.5} = \frac{4.5h}{4.5}$

$h = 2\text{ft}$