Using Area Formulas for Parallelograms, Triangles, Rhombuses, and Trapezoids

Parallelograms:
Area = (b)(h) where the height is the vertical distance from top to bottom

Triangles:
Area = $\frac{1}{2}$ (b)(h) where the height is the vertical distance from a vertex to its opposite side

Rhombuses:
Area = $\frac{1}{2}$ $(d_1)(d_2)$ where d = the length of a diagonal

Trapezoids:
Area = $\frac{1}{2}$ h $(b_1 + b_2)$ where the height is the vertical distance from one base to another

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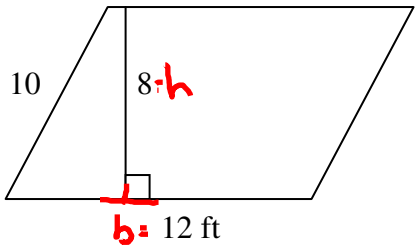
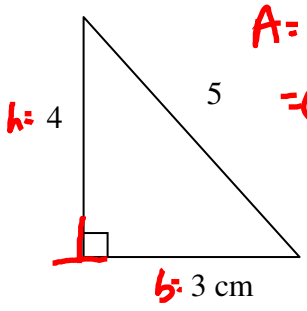
Use the above formulas to find the area of the following.

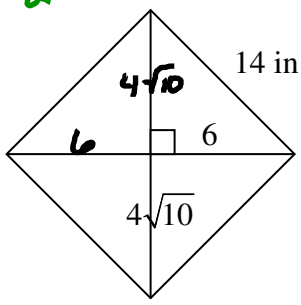
1) $A = (12)(8) = 96\ ft^2$



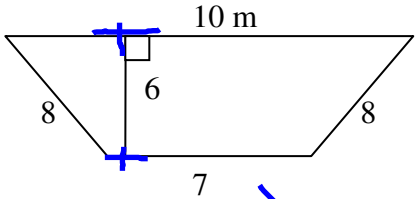
2) $A = \frac{1}{2}(4)(3) = 6\ cm^2$



3) $A = \frac{1}{2}(12)(8\sqrt{10}) = 48\sqrt{10}\ in^2 = 151.4\ in^2$



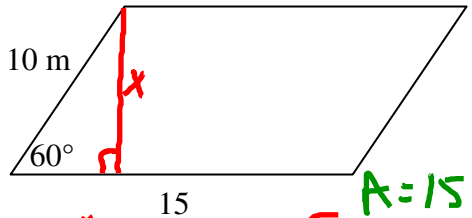
4)

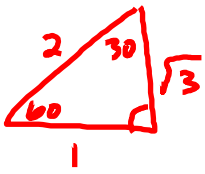


$A = \frac{1}{2}(6)(7+10) = 51\ m^2$

Find the areas of each.

5)





$\frac{x}{10} = \frac{\sqrt{3}}{2}$

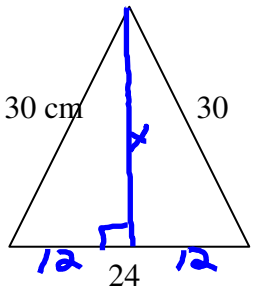
$2x = 10\sqrt{3}$

$x = 5\sqrt{3}$

$A = 15(5\sqrt{3})$

$= 75\sqrt{3}\ m^2$

6)



$x^2 + 12^2 = 30^2$

$x^2 + 144 = 900$

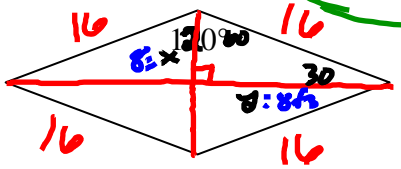
$\sqrt{x^2} = \sqrt{756}$

$x = 27.5$

$A = \frac{1}{2}(24)(27.5)$

$= 330\ cm^2$

7) P = 64 ft



$\frac{x}{16} = \frac{1}{2}$

$x = 8$

$\frac{y}{16} = \frac{\sqrt{3}}{2}$

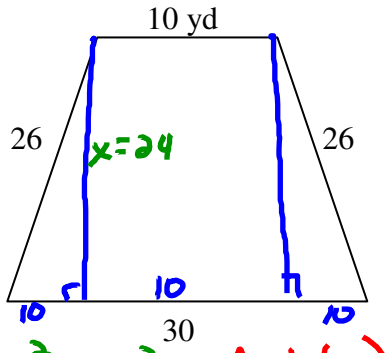
$2y = 16\sqrt{3}$

$y = 8\sqrt{3}$

$A = \frac{1}{2}(16)(16\sqrt{3})$

$= 128\sqrt{3}\ ft^2$

8)



$x^2 + 10^2 = 26^2$

$x^2 + 100 = 676$

$\sqrt{x^2} = \sqrt{576}$

$x = 24$

$A = \frac{1}{2}(24)(10 + 30)$

$= 480\ yd^2$