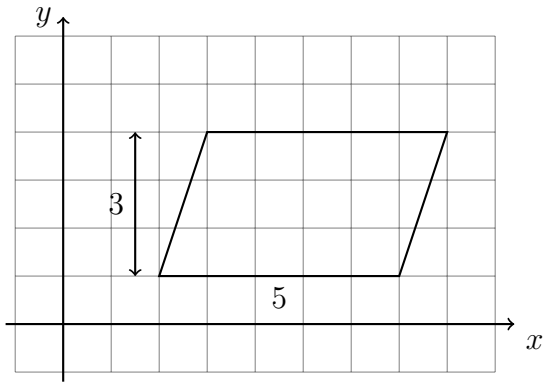
3.9 Solving for dimensions given area

1. Do Now: Find the area of the parallelogram shown with a base $b = 5$ and height $h = 3$.

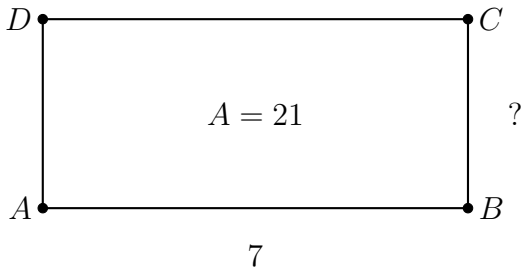
   Show the calculation by substituting values for base and height in the formula

   $A = \text{base} \times \text{height}$



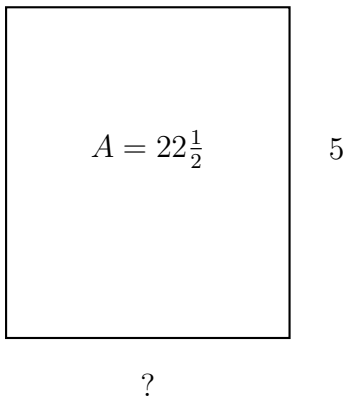
2. Rectangle $ABCD$ has area $A = 21$ and base $AB = 7$ but unknown height. Write an equation then solve. Start with this form (for the unknown, use h, x, or BC):

   $A = b \times h = 21$



3. Find the length of the base of a rectangle with area $A = 22\frac{1}{2}$ and height $h = 5$, expressed as a fraction. Start with the form (use b or x):

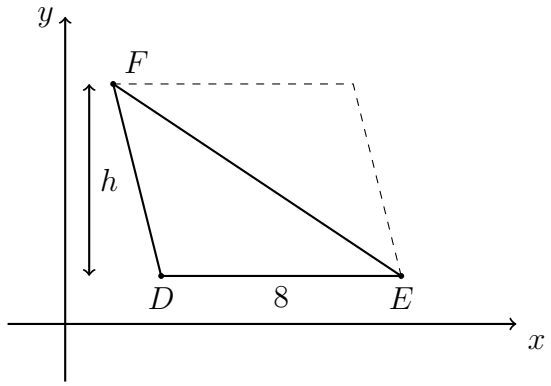
   $A = b \times h = 22\frac{1}{2}$



4. The $\triangle DEF$ has an area $A = 24$ and base $DE = 8$.

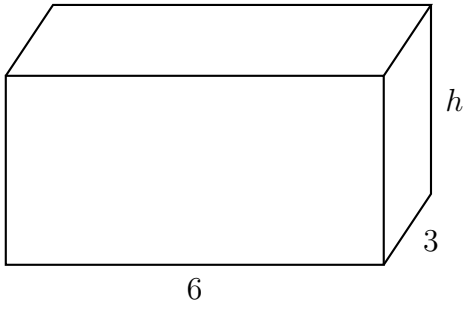
   Find its height, starting with an equation.

   $A = \frac{1}{2}bh = 24$



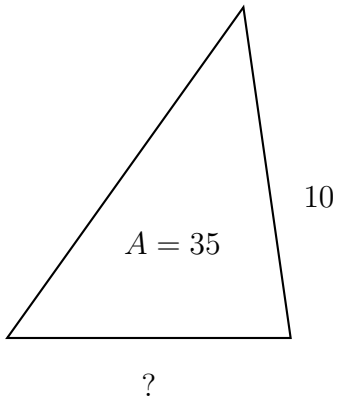
5. The volume of a rectangular prism (box) is $V = 72$ cubic feet. Its length is $l = 6$ feet and depth of $w = 3$ feet. Find its height. Start with the equation

   $V = l \times w \times h = 72$



6. Find the length of the base of a triangle with area $A = 35$ and height $h = 10$. Start with the form (use b or x):

   $A = \frac{1}{2} \times b \times h = 35$



7. Given circle O with area $A = 121\pi$ square centimeters.

   Find the radius of circle, OP. Start with the formula

   $A = \pi r^2 = 121\pi$