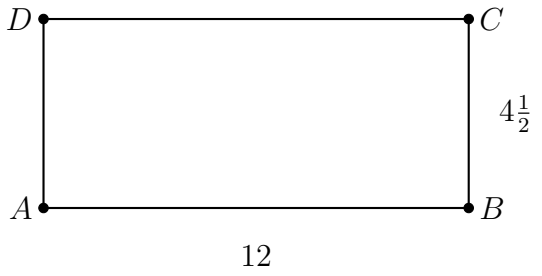
1.10 Homework: Area situations

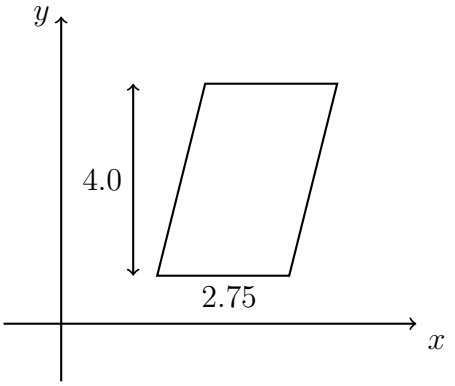
1. Find the area of rectangle $ABCD$ having length $l = 12$ and width $w = 4\frac{1}{2}$. Start with a formula of this form, substituting the given values:

   $A = l \times w$



2. A parallelogram is shown on the x-y plane having a base $b = 2.75$ and height $h = 4.0$.

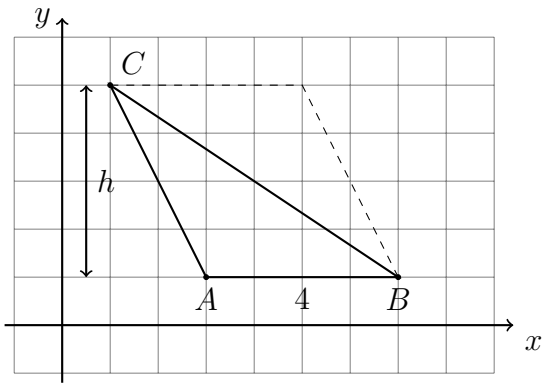
   Find its area, showing the calculation.



3. The $\triangle ABC$ is shown below with $A(3, 1)$, $B(7, 1)$, and $C(1, 5)$. The length of the base of the triangle is $AB = 4$.

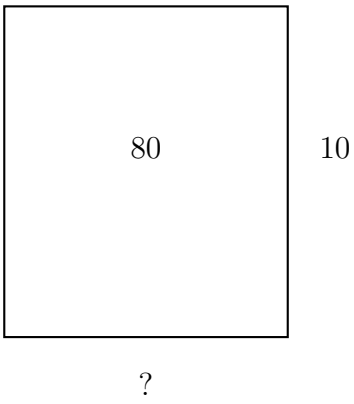
   (a) Find the height h.

   (b) Find the triangle's area, showing the calculation.



4. Find the length of the base of a rectangle with area $A = 80$ and height $h = 10$. Start with the form (use b or x):

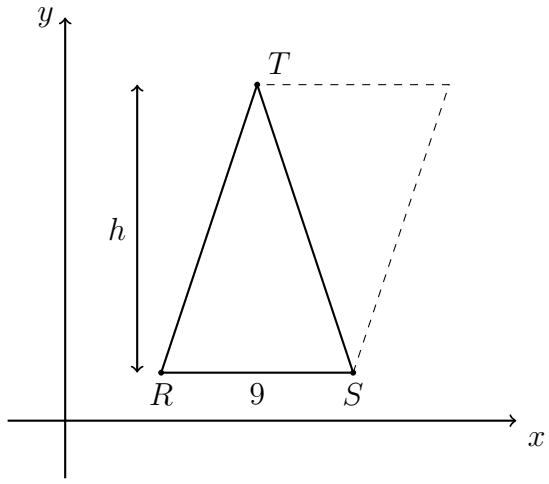
   $A = b \times h = 80$



5. Find the height of the $\triangle RST$, having an area of $A = 117$ and base $RS = 9$.

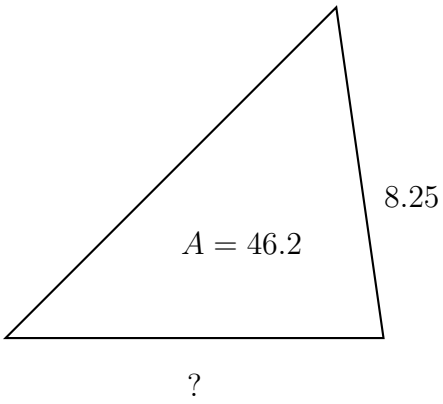
   Start by substituting values in the area formula:

   $A = \frac{1}{2}bh = 117$



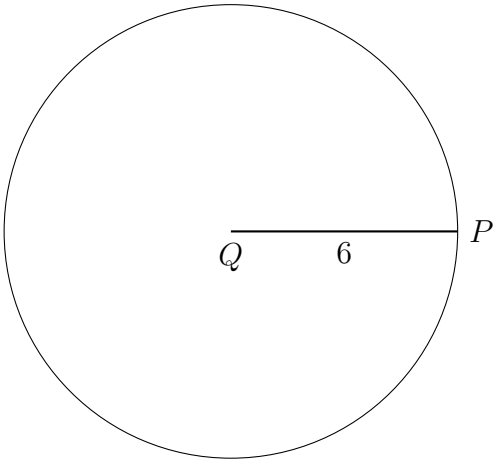
6. Find the length of the base of a triangle with area $A = 46.2$ and height $h = 8.25$. Express your result as a decimal. Start with the form (use b or x):

   $A = \frac{1}{2} \times b \times h = 46.2$



7. Find the area of circle Q with radius $r = 6$ centimeters, rounded to the *nearest tenth*. Start with the formula

$A = \pi r^2$

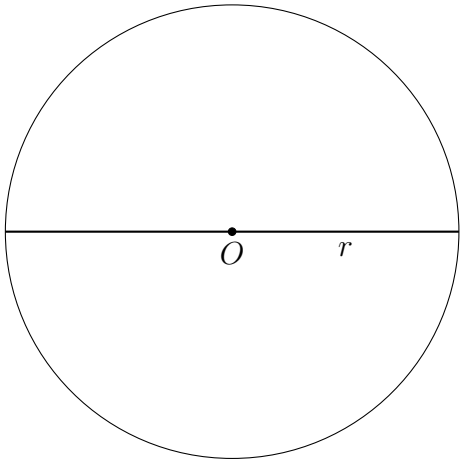


8. Find the radius and circumference of circle O with diameter $D = 15$ centimeters.

   (a) Write down the radius.

   (b) State the circumference in terms of π

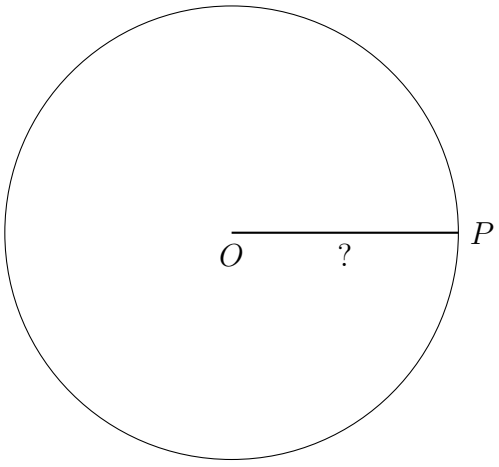
   (c) Express the circumference as a decimal, rounding to the *nearest hundredth*.



9. Given circle O with area $A = 64\pi$ square centimeters.

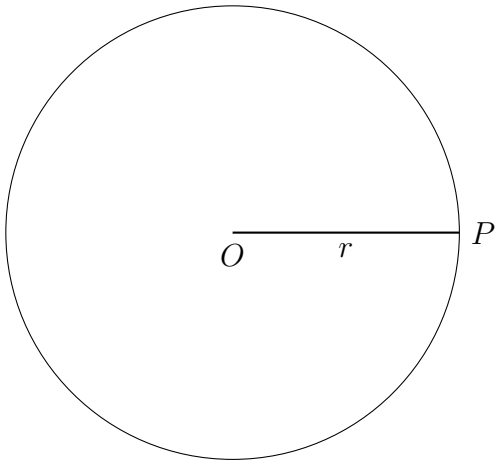
   Find the radius of circle, OP. Start with the formula

   $A = \pi r^2 = 64\pi$



10. Given circle O with circumference $C = 48\pi$ centimeters.

Find the radius of circle, OP.



11. Spicy: Find the area of the $\triangle ABC$, shown below, with $A(2,2)$, $B(7,4)$, and $C(4,8)$.

(a) First find the area of the red rectangle with sides $b = 5$, $h = 6$.

(b) Find the area of the three triangles surrounding $\triangle ABC$ in the rectangle.

(c) Subtract their areas from the rectangle to find $A_{\triangle ABC}$