

3.11 Quiz: area and volume situations

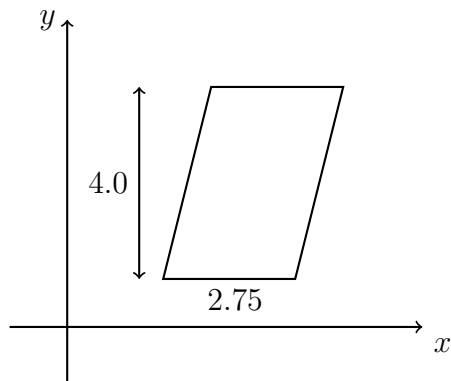
1. Find the area of rectangle $ABCD$ having length $l = 12$ and width $w = 4\frac{1}{2}$. Start with a formula of this form, substituting the given values:

$$A = l \times w$$



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

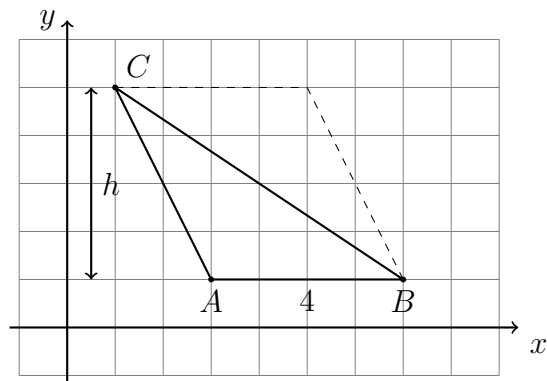
Find its area, showing the calculation.



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 $AB = 4$.

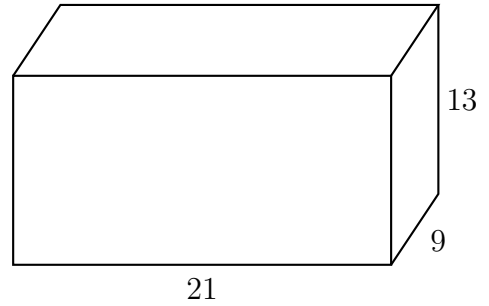
(a) Find the height h .

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



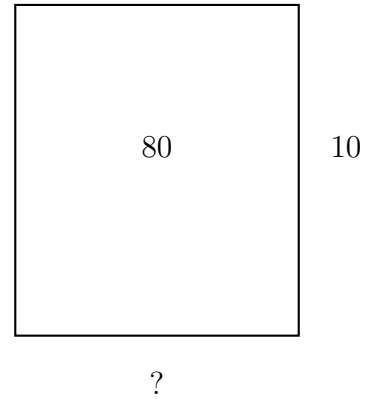
4. Find the volume of a rectangular prism (box). Its length is $l = 21$ inches, its height $h = 13$ inches, and depth is $w = 9$ inches. Start with the equation

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



5. 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):

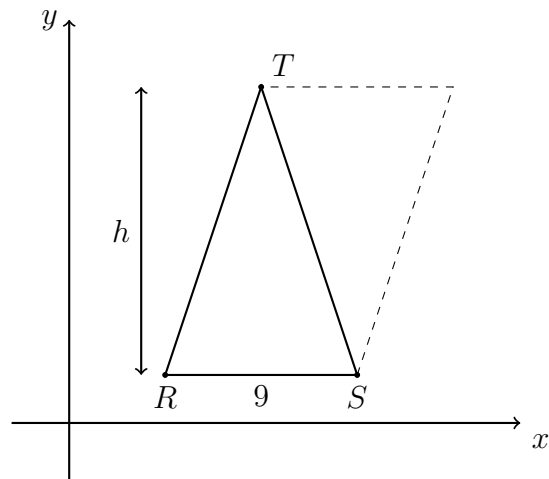
$$A = b \times h = 80$$



6. 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:

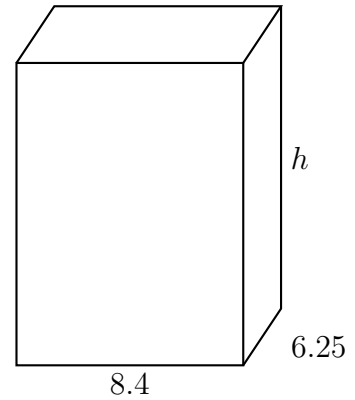
$$A = \frac{1}{2}bh = 117$$



7. The rectangular prism shown has a volume of $V = 735$ cubic feet. Its base measures $l = 8.4$ feet by $w = 6.25$ feet.

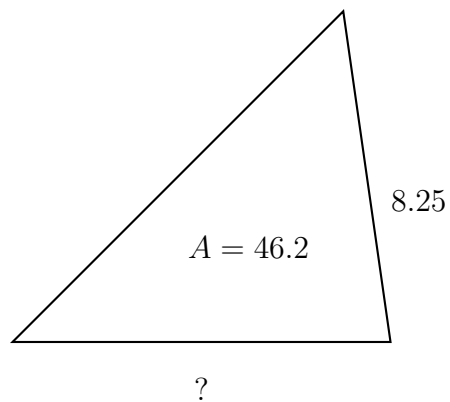
Find its height. Begin by writing the following formula with values substituted:

$$V = l \times w \times h = 735$$



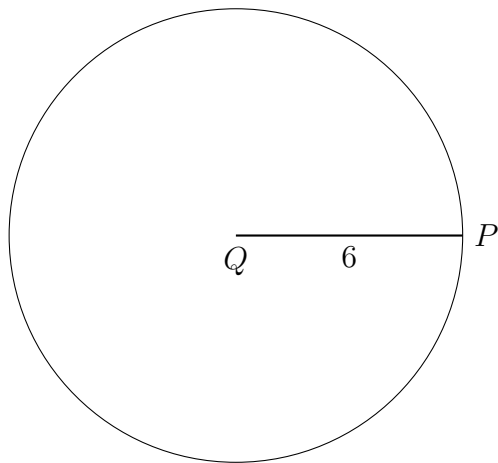
8. Find the length of the base of a triangle with area $A = 46.2$ and height $h = 8.25$. Express your result as a decimal. Start with the form (use b or x):

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



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

$$A = \pi r^2$$

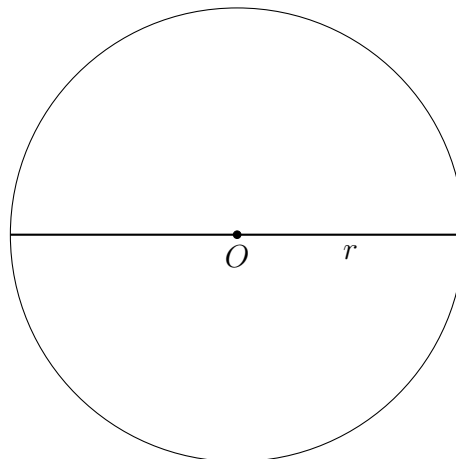


10. Find the radius and circumference of circle O with diameter $D = 15$ centimeters.

(a) Write down the radius.

(b) State the circumference in terms of π

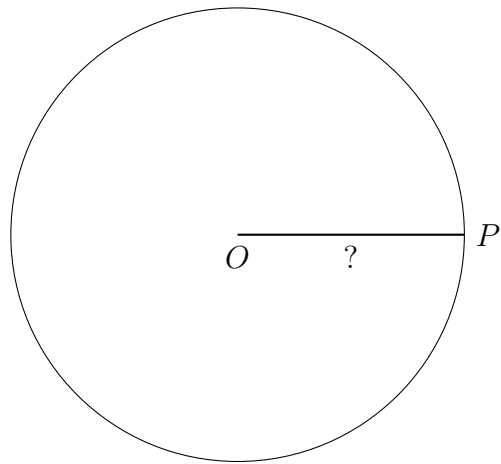
(c) Express the circumference as a decimal, rounding to the *nearest hundredth*.



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

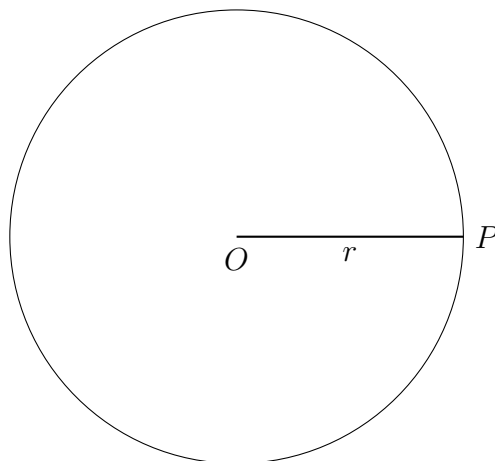
Find the radius of circle, OP . Start with the formula

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



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

Find the radius of circle, OP .

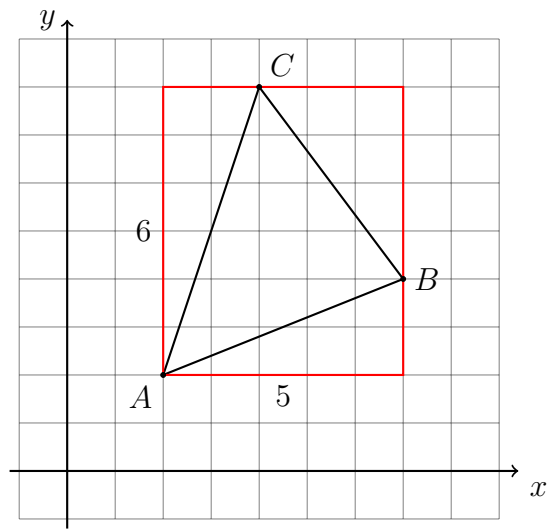


13. Spicy: Find the area of the $\triangle ABC$, shown below, with $A(2, 2)$, $B(7, 4)$, and $C(4, 8)$.

(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 $A_{\triangle ABC}$



14. Spicy: A rectangular prism has a square base. Its volume is $V = 507$ cubic centimeters and its height is $h = 12$ cm.

Calculate the dimensions of its base.

