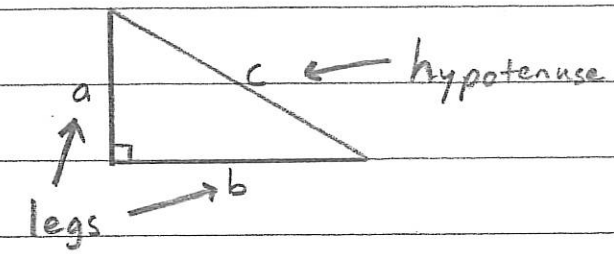
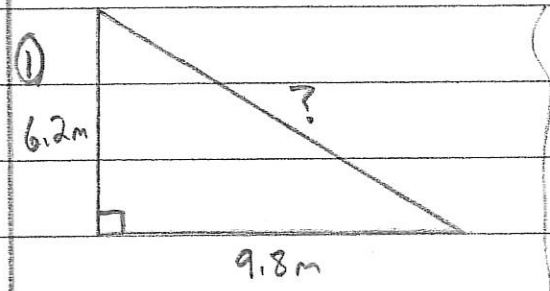
The Pythagorean Theorem



$$c^2 = a^2 + b^2$$

Find the missing measure of each triangle. Round to the nearest tenth.

① 

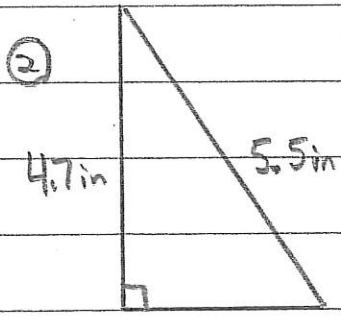
$c^2 = a^2 + b^2$

$c^2 = 6.2^2 + 9.8^2$

$c^2 = 38.44 + 96.04$

$\sqrt{c^2} = \sqrt{134.48}$

$c = 11.6\text{m}$

② 

$c^2 = a^2 + b^2$

$5.5^2 = a^2 + 4.7^2$

$30.25 = a^2 + 22.09$

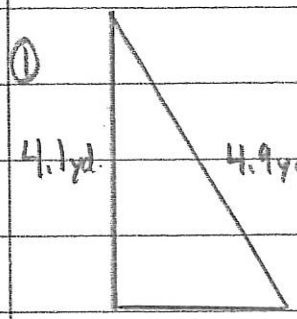
$-22.09 \quad -22.09$

$\sqrt{8.16} = \sqrt{a^2}$

$2.9\text{in} = a$

Converse of the Pythagorean Theorem

Is the triangle a right triangle?

① 

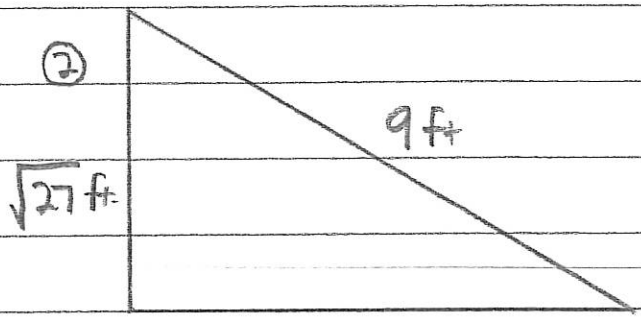
$a^2+b^2 \stackrel{?}{=} c^2$

$2.3^2+4.1^2 \stackrel{?}{=} 4.9^2$

$5.29+16.81 \stackrel{?}{=} 24.01$

$22.1 \neq 24.01$

No, it is not a right triangle

② 

$a^2+b^2 \stackrel{?}{=} c^2$

$\sqrt{27}^2+\sqrt{54}^2 \stackrel{?}{=} 9^2$

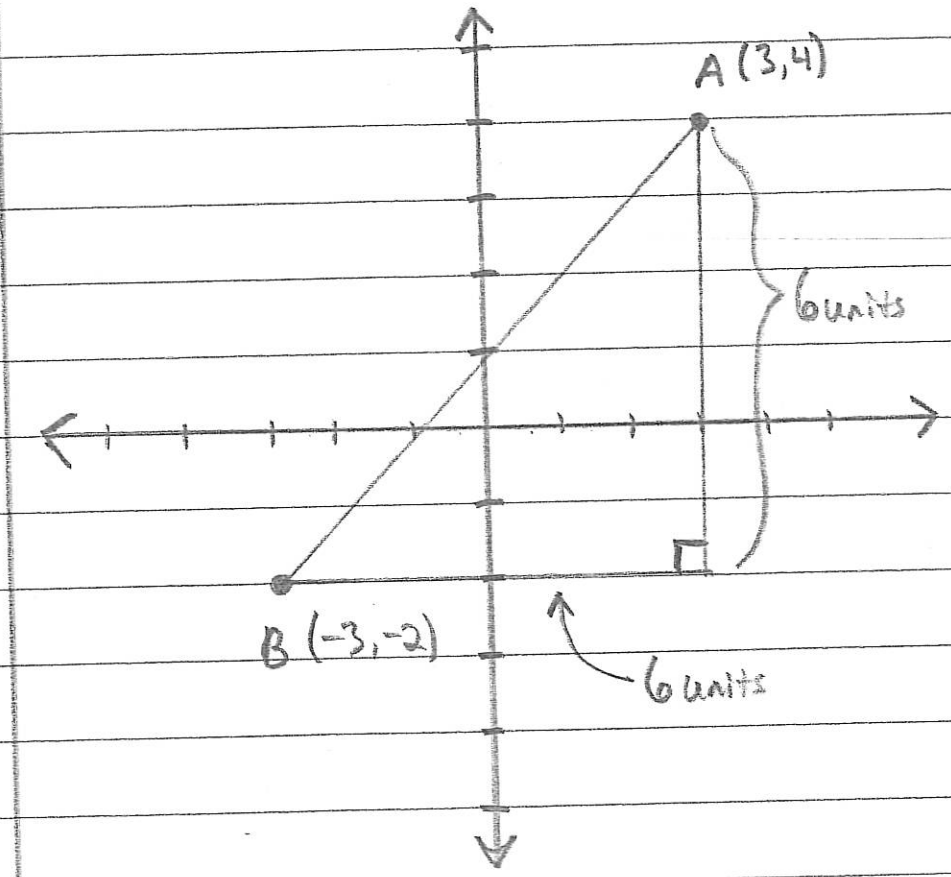
$27+54 \stackrel{?}{=} 81$

$81 = 81$

Yes, it is a right triangle

Distance Between Points on the Coordinate Plane

Find the distance between points A and B. (Round-Tenths)



$c^2 = a^2 + b^2$

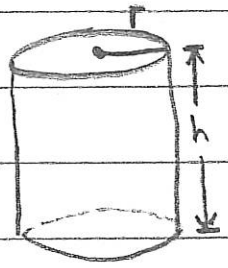
$c^2 = 6^2 + 6^2$

$c^2 = 36 + 36$

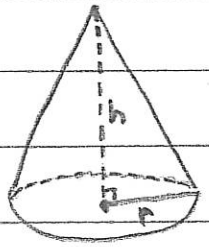
$\sqrt{c^2} = \sqrt{72}$

$c = 8.5$ units

Volume of Cylinders and Cones

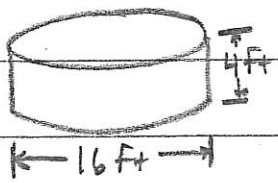


$V = \pi r^2 h$



$V = \pi r^2 \frac{h}{3}$ or $\frac{1}{3}\pi r^2 h$

Find the volume. Round to the nearest hundredth and answer in terms of π.

① 

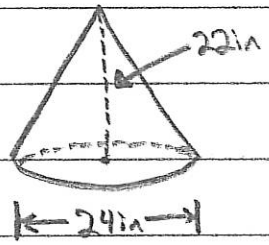
$V = \pi r^2 h$

$V = (3.14159)(8^2)(4)$

$V = 804.25\ ft^3$

$V = \pi(8^2)(4)$

$V = 256\pi\ ft^3$

② 

$V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}(3.14159)(12^2)(22)$

$V = 3,317.52\ in^3$

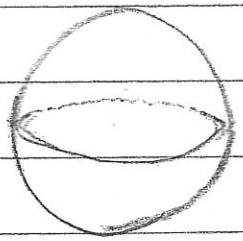
$V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}\pi(12^2)(22)$

$V = 1,056\pi\ in^3$

Answered in terms of π

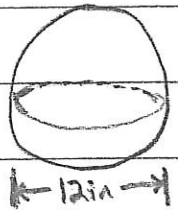
Volume and Surface Area of Spheres



$$V = \frac{4}{3}\pi r^3$$

$$SA = 4\pi r^2$$

Find the volume and surface area. Round to the nearest hundredth and answer in terms of π.



Answered in terms of π

$V = \frac{4}{3}\pi r^3$

$V = \frac{4}{3}(3.14159)(6^3)$

$V = 904.78 in^3$

$V = \frac{4}{3}\pi r^3$

$V = \frac{4}{3}\pi(6^3)$

$V = 288\pi$

$SA = 4\pi r^2$

$SA = 4(3.14159)(6^2)$

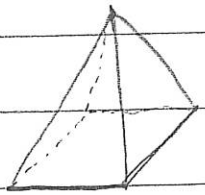
$SA = 452.39 in^2$

$SA = 4\pi r^2$

$SA = 4\pi(6^2)$

$SA = 144\pi$

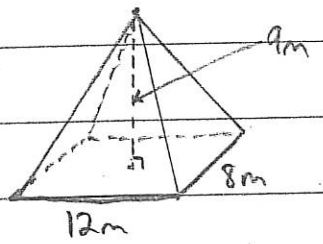
Volume of a Pyramid



$V = \frac{1}{3}Bh$

B = Area of the base

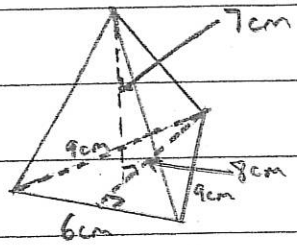
Find the volume. Round to the nearest hundredth.

① 

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}(12)(8)(9)$

$V = 288 m^3$

② 

$B = \frac{1}{2}bh$

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}(\frac{1}{2})(6)(8)(7)$

$V = 56 cm^3$

Solving Inequalities

Inequalities: $>$, $<$, $\geq$, and $\leq$

Solve and graph each inequality.

① $3(x+2)+13>55$

$3x+6+13>55$

$3x+19>55$

$-19 \quad -19$

$\frac{3x}{3} > \frac{36}{3}$

$x>12$

② $-3(x+4)+3 \geq 9$

$-3x-12+3 \geq 9$

$-3x-9 \geq 9$

$+9 \quad +9$

$\frac{-3x}{-3} \geq \frac{18}{-3}$

Reverse the Inequality

$x \leq -6$