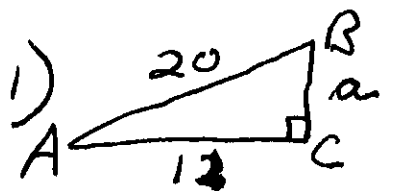


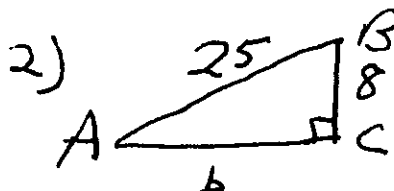
Trig Test 200509070631 Name Key

Solve for the unknown value using either $c^2 = a^2 + b^2$ or $PP_2 = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$. Start with the equation then solve in a step by step manner. Circle final answer. Leave answer as square root or whole number.



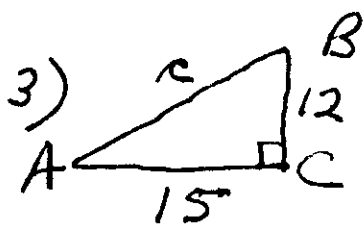
$$\begin{aligned} a^2 + b^2 &= c^2 \\ a^2 + 12^2 &= 20^2 \\ a^2 + 144 &= 400 \\ a^2 &= 256 \\ \sqrt{a^2} &= \sqrt{256} \\ \mathbf{a} &= \mathbf{16} \end{aligned}$$

$$\begin{array}{r} 400 \\ -144 \\ \hline 256 \end{array}$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 8^2 + b^2 &= 25^2 \\ 64 + b^2 &= 625 \\ b^2 &= 625 - 64 \\ b^2 &= 561 \\ \sqrt{b^2} &= \sqrt{561} \\ b &= \sqrt{561} \end{aligned}$$

$$\begin{array}{r} 625 \\ -64 \\ \hline 561 \end{array} \quad \begin{array}{r} 25 \\ \times 25 \\ \hline 125 \\ 500 \\ \hline 625 \end{array}$$



$$\begin{aligned} c^2 &= a^2 + b^2 \\ &= 12^2 + 15^2 \\ &= 144 + 225 \end{aligned}$$

$$\begin{array}{r} 144 \\ +225 \\ \hline 369 \end{array}$$

$$\begin{aligned} c^2 &= 369 \\ \sqrt{c^2} &= \sqrt{369} \\ c &= \sqrt{369} \\ c &= \sqrt{9} \sqrt{41} \\ c &= 3\sqrt{41} \end{aligned}$$

4) $P_1(-2, 6)$ $P_2(6, 12)$
Find distance P_1P_2

$$\begin{aligned} P_1P_2 &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ &= \sqrt{(6 - (-2))^2 + (12 - 6)^2} \\ &= \sqrt{(6+2)^2 + 6^2} \\ &= \sqrt{8^2 + 6^2} \\ &= \sqrt{64 + 36} \end{aligned}$$

$$\begin{aligned} P_1P_2 &= \sqrt{100} \\ \sqrt{P_1P_2} &= \sqrt{100} \\ P_1P_2 &= 10 \end{aligned}$$

$$\sqrt{2} = \underline{1.414} \quad \sqrt{3} = \underline{1.732} \quad \sqrt{5} = \underline{2.236} \quad \sqrt{100} = \underline{10} \quad \sqrt{81} = \underline{9}$$