Sec. 4.2

Unit Circle ⇒ radius of 1

equation of circle at origin

$$x^2+y^2=r^2$$

$$x^2+y^2=1 \quad \text{(unit circle)}$$

radius of 10

$$x^2+y^2=100$$

Pg. 11

a) $x^2+y^2=36$

b) $x^2+y^2=10$

c) $x^2+y^2=9$

d) $5^2+12^2=r^2$

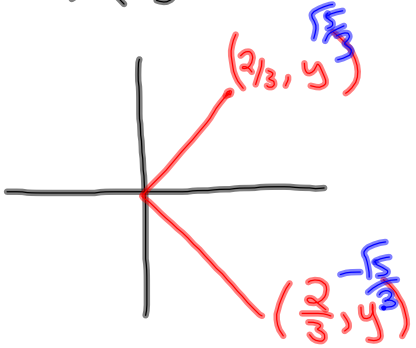
$169=r^2$

$13=r$

$x^2+y^2=169$

Pg. 12

ex. 2 a) $\left(\frac{2}{3}, y\right)$ unit circle



$x^2+y^2=1$

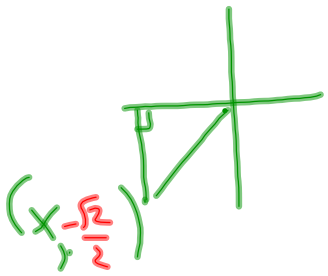
$\left(\frac{2}{3}\right)^2+y^2=1$

$\frac{4}{9}+y^2=1$

$y^2=\frac{5}{9}$

$y=\pm\frac{\sqrt{5}}{3}$

b) $\frac{-1}{\sqrt{2}}$ y-coord QIII



$* \frac{-1}{\sqrt{2}}\cdot\frac{\sqrt{2}}{\sqrt{2}}=\frac{-\sqrt{2}}{2}$

$x^2+\left(-\frac{\sqrt{2}}{2}\right)^2=1$

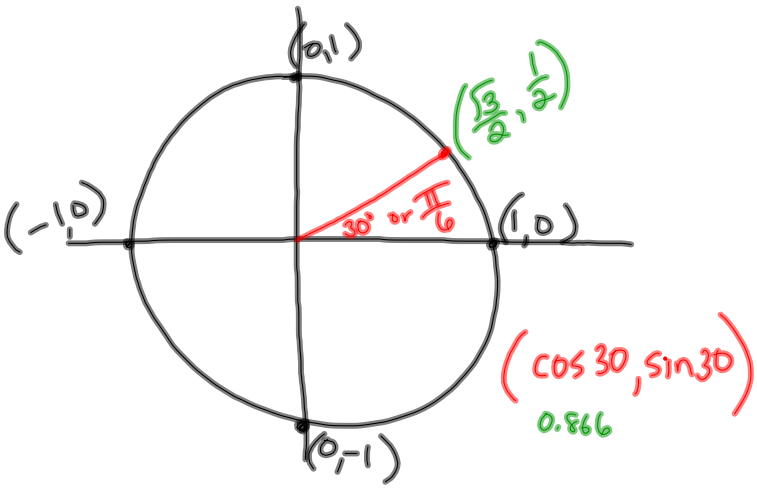
$x^2+\frac{2}{4}=1$

$x^2=\frac{1}{2}$

$x=\pm\sqrt{\frac{1}{2}}=\pm\frac{1}{\sqrt{2}}=\pm\frac{\sqrt{2}}{2}$

Quad III

$\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$



$.866 \approx \frac{\sqrt{3}}{2}$

$.707 \approx \frac{\sqrt{2}}{2}$

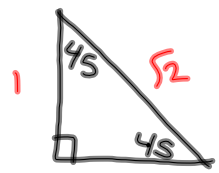
$x^2 + y^2 = 1$

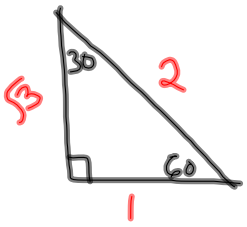
$(\frac{\sqrt{3}}{2})^2 + (\frac{1}{2})^2 = 1$

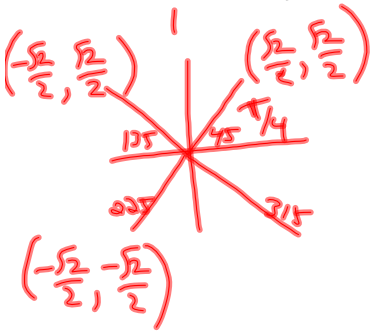
$\frac{3}{4} + \frac{1}{4} = 1$

$\frac{4}{4} = 1$

Special Δ's







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1a, 2 a,b,c

3 a,b,c 4 a,b,c,d

5 a, e, g, i

6.