

## One More Day

#1. Determine the distance between:  $(-5, -2)$   $(-8, -13)$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(-5 - (-8))^2 + (-2 - (-13))^2}$$

$$d = \sqrt{3^2 + 11^2} = \sqrt{130} \approx 11.4$$

#2. Determine the center and radius of the circle with the given equation  $(x+3)^2 + (y-4)^2 = 15$

CENTER:  $(-3, 4)$

RADIUS =  $\sqrt{15}$

Quiz soon?!!?

Sep 7-8:30 AM

1. Simplify the following:

$4\sqrt{2}$

a.  $\sqrt{32}$

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$$2 \cdot 2 \cdot \sqrt{2}$$

$4\sqrt{2}$

b.  $\sqrt{180}$

$$2 \cdot \sqrt{90}$$

$$2 \cdot \sqrt{9 \cdot 10}$$

$$2 \cdot 3 \cdot \sqrt{10}$$

$6\sqrt{10}$

c.  $3\sqrt{7} \cdot 4\sqrt{14}$

$$3 \cdot 4 \cdot \sqrt{7} \cdot \sqrt{14}$$

$$12\sqrt{98}$$

$$12\sqrt{2 \cdot 7 \cdot 7}$$

$84\sqrt{2}$

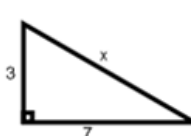
d.  $(3\sqrt{5})^2$

$$3\sqrt{5} \cdot 3\sqrt{5}$$

$$3 \cdot 3 \cdot \sqrt{5} \cdot \sqrt{5}$$

$$9 \cdot 5$$

$45$



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

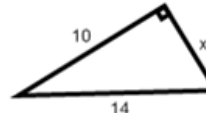
$$3^2 + 7^2 = x^2$$

$$9 + 49 = x^2$$

$$58 = x^2$$

$$\sqrt{58} = x$$

$x = 7.6$



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

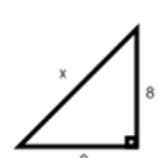
$$x^2 + 10^2 = 14^2$$

$$x^2 + 100 = 196$$

$$\frac{-100 \quad -100}{x^2 = 96}$$

$x = \sqrt{96}$

$x = 9.8$



isos. Rt.  $\Delta$

$x = 8\sqrt{2}$

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$a = 9, c = 9\sqrt{2}$

$a = 8\sqrt{3}, c = 16$

*isos R.T. Δ*  
 $a = \frac{11}{\sqrt{2}} = 7.78$   
 $a = b = 7.78$

*30-60-90*  
 $a = \frac{15}{\sqrt{3}} = 8.88$   
 $c = 2 \cdot a = 2(8.88)$   
 $a = 8.88, c = 17.32$

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4. Determine the distance between the following pairs of points:  
 $(-8, 2)$   $(-13, -5)$      $(12, 1)$   $(-4, -5)$

$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$   
 $d = \sqrt{(-8 - (-13))^2 + (2 - (-5))^2}$   
 $d = \sqrt{25 + 49}$   
 $\sqrt{74} = 8.6$

$d = \sqrt{(12 - (-4))^2 + (1 - (-5))^2}$   
 $d = \sqrt{16^2 + 6^2}$   
 $d = \sqrt{256 + 36}$   
 $d = \sqrt{292} \approx 17.09$

5. A 20 ft ladder reaches a window 18 ft high. How far is the foot of the ladder from the base of the building? How far must the foot of the ladder be moved to lower the top of the ladder by 2 ft?

$x^2 + 18^2 = 20^2$   
 $x^2 + 324 = 400$   
 $x^2 = 76$   
 $x = 8.72'$

*LOWERED THE TOP BY 2'*  
 $x^2 + 16^2 = 20^2$   
 $x^2 + 256 = 400$   
 $x^2 = 144$   
 $x = 12$

$12 - 8.72 = 3.28$   
 FOOT WAS AT 8.72'  
 is Now @ 12'  
 MOVED 3.28'

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6. Solve for x:

$$x^2 + 5x - 24 = 0$$

1,24  
2,12  
3,8  
4,6

$$(x - 3)(x + 8) = 0$$

$$(x - 3)(x + 8) = 0$$

$$x = -8, x = 3$$

$$2x^2 - 3x - 6 = 0$$

$$(3 \pm \sqrt{3^2 - 4 \cdot 2 \cdot -6}) / (2 \cdot 2)$$

$$x = 2.637, x = -1.137$$

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7. Determine the equation of the line between the following pair of points:  
 (8,2)(-16,11)

$$y = mx + b$$

$$m = \frac{11 - 2}{-16 - 8} = \frac{9}{-24} = -\frac{3}{8}$$

$$y = -\frac{3}{8}x + 5$$

8. Solve the systems:

$$\begin{cases} y = 5x - 7 \\ y = x + 5 \end{cases}$$

$$\begin{array}{r} 5x - 7 = x + 5 \\ -x \quad -x \\ \hline 4x - 7 = 5 \\ \quad +7 \quad +7 \\ \hline 4x = 12 \\ \hline x = 3 \end{array}$$

(3,8)

$$\begin{cases} 2x - 5y = 2 \\ 4x + 3y = 30 \end{cases}$$

$$\begin{array}{r} x \cdot 3 \{ 2x - 5y = 2 \\ x \cdot 5 \{ 4x + 3y = 30 \\ \hline 6x - 15y = 6 \\ + 20x + 15y = 150 \\ \hline 26x = 156 \\ \hline x = 6 \end{array}$$

$$\begin{array}{r} 4(6) + 3y = 30 \\ 24 + 3y = 30 \\ -24 \quad -24 \\ \hline 3y = 6 \\ \hline y = 2 \end{array}$$

(6,2)

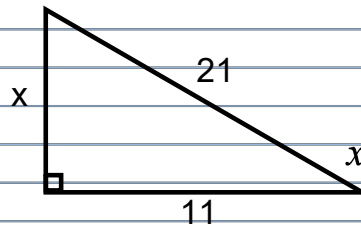
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Simplify:

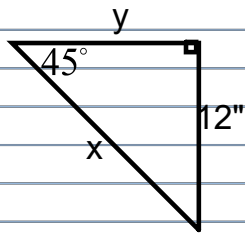
$$\sqrt{300} \quad 10\sqrt{3}$$

$$(5\sqrt{2})(4\sqrt{14}) \quad 40\sqrt{7}$$

*Additional problems .  
..with answers. Try these  
and see if you get them right!*

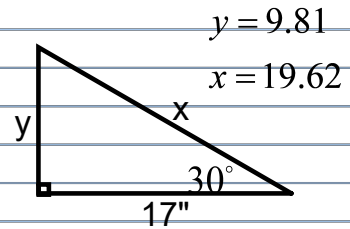


$$x = \sqrt{320} = 17.9$$



$$x = 12\sqrt{2}$$

$$y = 12$$



$$y = 9.81$$

$$x = 19.62$$

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Mar 17-7:13 AM

## Attachments

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Day 23 Practice.doc