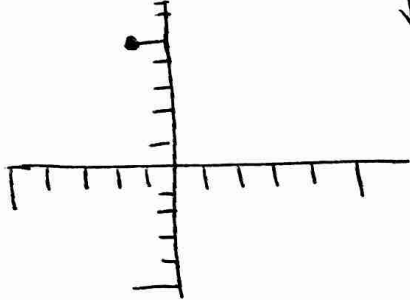


Distances and Equations of Circles - Answers

1.  $\sqrt{26}$     2.  $4\sqrt{5}$     3.  $\sqrt{13}$     4.  $\sqrt{269}$     5. (0,6) or (0,4) or (-2,6) or (-2,4)
6. Many answers. Ex: (60,-2); 53 units    7.  $(x-4)^2 + (y-1)^2 = 81$     8.  $(x+12)^2 + (y+3)^2 = 16$
9.  $(x-7)^2 + (y-6)^2 = 81$     10.  $(x+1)^2 + (y-12)^2 = 25$     11.  $(x+1)^2 + (y-5)^2 = 81$
12.  $(x-4)^2 + (y+16)^2 = 9$     13.  $x^2 + 2x + y^2 - 6y - 6 = 0$     14.  $x^2 - 10x + y^2 + 24y + 160 = 0$
15.  $x^2 - 4x + y^2 - 12y + 35 = 0$     16.  $x^2 + 14x + y^2 - (6\sqrt{2})y + 55 = 0$

5. \*hint



$$\sqrt{2} = \sqrt{1+1}$$

1 unit in the x  
1 unit in the y

$$14. C = 2\pi r$$

$$6\pi = 2\pi r$$

$$3 = r$$

$$(x-5)^2 + (y+12)^2 = 9$$

$$x^2 - 10x + 25 + y^2 + 24y + 144 = 9$$

$$x^2 - 10x + y^2 + 24y = -160$$

$$x^2 - 10x + y^2 + 24y + 160 = 0$$

6. cannot use the example given.  
hint \*pick the desired distance  $1\frac{1}{2}$ .

$$7. x^2 - 8x + \underline{\quad} + y^2 - 2y + \underline{\quad} = 64$$

$$x^2 - 8x + 16 + y^2 - 2y + 1 = 64 + 16 + 1$$

$$(x-4)^2 + (y-1)^2 = 81$$

$$11. x^2 + 2x + \underline{\quad} + y^2 - 10y + \underline{\quad} = 55$$

$$x^2 + 2x + 1 + y^2 - 10y + 25 = 55 + 1 + 25$$

$$(x+1)^2 + (y-5)^2 = 81$$