Equations of Circles Review Problems

To Know:

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| $\left(x-h\right)^{2}+\left(y-k\right)^{2}=r^{2}$ with center (h,k) and radius r Midpoint formula $(\frac{x\_{1}+x\_{2}}{2}.\frac{y\_{1}+y\_{2}}{2})$ Distance Formula: $d= \sqrt{\left(x\_{1}-x\_{2}\right)^{2}+\left(y\_{1}-y\_{2}\right)^{2}}$To complete the square: Add $\left(\frac{b}{2}\right)^{2}$ where b is the coefficient of the x term to both sides. |

# I. Writing the equation of a circle given…1. A graph. Write the equation of graphs A and B on the lines provided below

 A. B.



A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. A center and a radius.

A. Center (-10, -4) ; Radius $3\sqrt{7}$ B. Center (5, -1) ; Radius $4$

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. A center and a point

A. Center (3, 2) ; Point (-1,5) B. Center (0, 3) ; Point (4,2)

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## 4. Two points on a diameter

A. Points (5,8) and (-5,-2) B. Points (3,2) and (11, 10)

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. The center and a circumference. CIRCUMFERENCE FORMULA: $C=2πr$

The circumference of a circle is $10π$ with a center of (-2, -5). Solve for the radius using the circumference formula and then write the equation of the circle.

# II. Graphing a circle given its equation.

1. Graph $\left(x+2\right)^{2}=\left(y-1\right)^{2}=36$

# III. Changing from general form to standard form by completing the square

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