Name _____ Score _____ / 20 Teacher _____ Date _____

Properties of Circles

Find the exact center and positive radius of each circle.

1. $x^2 + y^2 = 121$

Center: _____ Radius: _____

2. $y^2 + 22 \cdot y + 20 \cdot x = -1 \cdot x^2 - 52$

Center: _____ Radius: _____

3. $\left(x - \frac{13}{4}\right)^2 + \left(y + \frac{5}{2}\right)^2 = \frac{100}{9}$

Center: _____ Radius: _____

4. $-5 \cdot x + \frac{8}{3} \cdot y - \frac{365}{144} = -1 \cdot x^2 - 1 \cdot y^2$

Center: _____ Radius: _____

5. $\left(x - 1 \cdot \sqrt{7}\right)^2 + \left(y + \sqrt{13}\right)^2 = 3$

Center: _____ Radius: _____

6. $x^2 + y^2 - 2 \cdot \sqrt{10} \cdot x = -19 + 2 \cdot \sqrt{14} \cdot y$

Center: _____ Radius: _____

7. $(x - 4)^2 + (y + 3)^2 = 36$

Center: _____ Radius: _____

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Properties of Circles

Find the exact center and positive radius of each circle.

8. $x^2 + y^2 + 2 \cdot x - 143 = 0$

Center: _____ Radius: _____

9. $\left(x + \frac{7}{4}\right)^2 + \left(y - \frac{11}{2}\right)^2 = \frac{100}{9}$

Center: _____ Radius: _____

10. $x^2 = -1 \cdot y^2 + 13 \cdot x + \frac{2}{3} \cdot y - \frac{5875}{144}$

Center: _____ Radius: _____

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Properties of Circles

Answer Key

Find the exact center and positive radius of each circle.

1. $x^2 + y^2 = 121$

Center: $(0,0)$

Radius: 11

Standard form: $x^2 + y^2 = 121$

2. $y^2 + 22 \cdot y + 20 \cdot x = -1 \cdot x^2 - 52$

Center: $(-10, -11)$

Radius: 13

Standard form: $(x + 10)^2 + (y + 11)^2 = 169$

3. $\left(x - \frac{13}{4}\right)^2 + \left(y + \frac{5}{2}\right)^2 = \frac{100}{9}$

Center: $\left(\frac{13}{4}, \frac{-5}{2}\right)$

Radius: $\frac{10}{3}$

Standard form: $\left(x - \frac{13}{4}\right)^2 + \left(y + \frac{5}{2}\right)^2 = \frac{100}{9}$

4. $-5 \cdot x + \frac{8}{3} \cdot y - \frac{365}{144} = -1 \cdot x^2 - 1 \cdot y^2$

Center: $\left(\frac{5}{2}, \frac{-4}{3}\right)$

Radius: $\frac{13}{4}$

Standard form: $\left(x - \frac{5}{2}\right)^2 + \left(y + \frac{4}{3}\right)^2 = \frac{169}{16}$

5. $\left(x - 1 \cdot \sqrt{7}\right)^2 + \left(y + \sqrt{13}\right)^2 = 3$

Center: $(\sqrt{7}, -1 \cdot \sqrt{13})$

Radius: $\sqrt{3}$

Standard form: $\left(x - 1 \cdot \sqrt{7}\right)^2 + \left(y + \sqrt{13}\right)^2 = 3$

6. $x^2 + y^2 - 2 \cdot \sqrt{10} \cdot x = -19 + 2 \cdot \sqrt{14} \cdot y$

Center: $(\sqrt{10}, \sqrt{14})$

Radius: $\sqrt{5}$

Standard form: $\left(x - 1 \cdot \sqrt{10}\right)^2 + \left(y - 1 \cdot \sqrt{14}\right)^2 = 5$

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Properties of Circles

Answer Key

Find the exact center and positive radius of each circle.

7. $(x-4)^2+(y+3)^2=36$

Center: $(4,-3)$

Radius: 6

Standard form: $(x-4)^2+(y+3)^2=36$

8. $x^2+y^2+2\cdot x-143=0$

Center: $(-1,0)$

Radius: 12

Standard form: $(x+1)^2+y^2=144$

9. $\left(x+\frac{7}{4}\right)^2+\left(y-\frac{11}{2}\right)^2=\frac{100}{9}$

Center: $\left(\frac{-7}{4},\frac{11}{2}\right)$

Radius: $\frac{10}{3}$

Standard form: $\left(x+\frac{7}{4}\right)^2+\left(y-\frac{11}{2}\right)^2=\frac{100}{9}$

10. $x^2=-1\cdot y^2+13\cdot x+\frac{2}{3}\cdot y-\frac{5875}{144}$

Center: $\left(\frac{13}{2},\frac{1}{3}\right)$

Radius: $\frac{5}{4}$

Standard form: $\left(x-\frac{13}{2}\right)^2+\left(y-\frac{1}{3}\right)^2=\frac{25}{16}$