Geometry
Ch. 11 HW #12 Review

Name: _____
Period: _____

Graph each of the following on the graph at right.

1) $y = \frac{2}{3}x - 9$

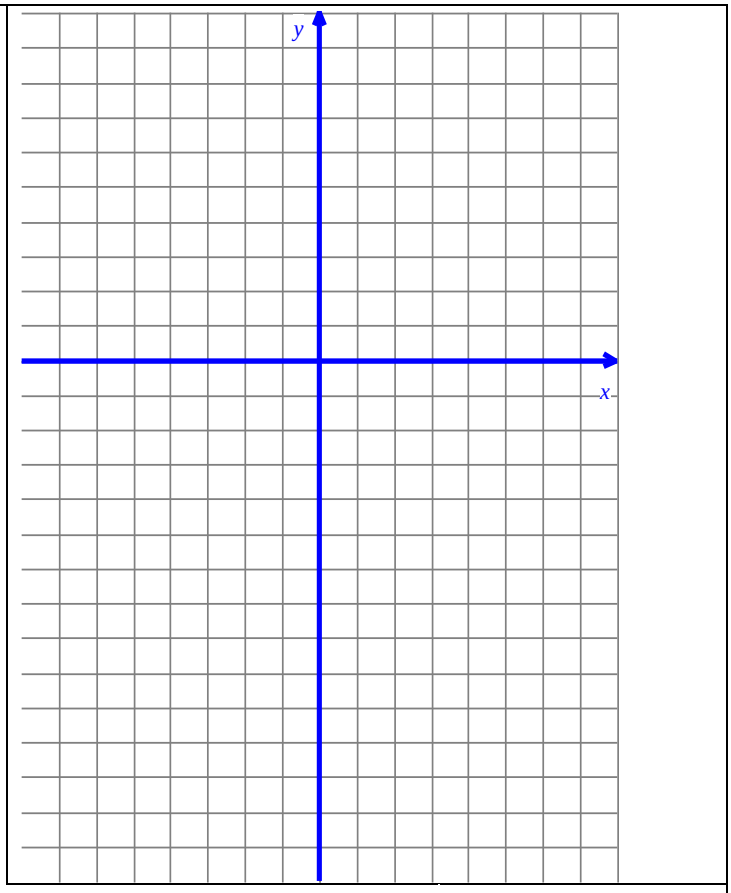
2) $3x + 4y = 16$

3) $x = -7$

4) $x^2 + y^2 = 9$
Center: ( , ) Radius:

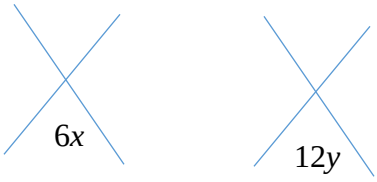
5) $(x-3)^2 + (y+4)^2 = 4$
Center: ( , ) Radius:

6) $(x+4)^2 + (y-3)^2 = 1$
Center: ( , ) Radius:




7) $x^2 + y^2 + 6x + 12y = -29$

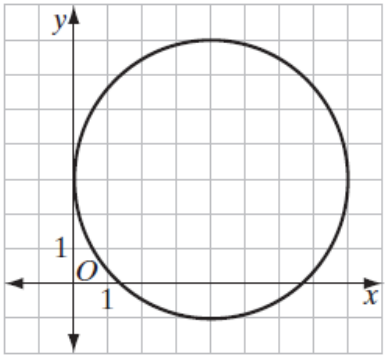
$x^2 + 6x + \_\_\_\_\_ + y^2 + 12y + \_\_\_\_ = -29 + \_\_\_\_ + \_\_\_\_$



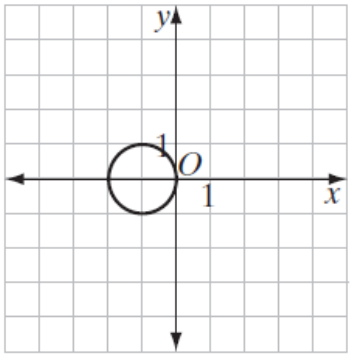

Center: ( , ) Radius:

Find the equation of the following circles.

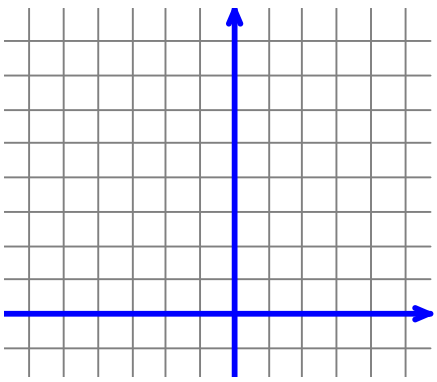
8) Center: ( , ) Radius:
Eq:




9) Center: ( , ) Radius:
Eq:




10) The diameter has endpoints $(-6,3)$ and $(4,3)$.
Center: ( , ) Radius:
Eq:



Simplify each expression.

| | | | | |
|---|---|---|---|---|
| 11) a) $5^2$<br>b) $5^{-2}$<br>c) $5^0$ | 12) $x^3x^4$ | 13) $\left(x^3\right)^4$ | 14) $\left(3x^2y^4\right)^4$ | 15) $\left(5x^3y^2\right)\left(7x^3y^8\right)$ |
| 16) $\frac{x^3}{x^8}$ | 17) $\frac{x^8}{x^3}$ | 18) $\frac{x^{-8}}{y^2z^{-3}}$ | 19) $\frac{3x^{-8}z}{6x^2z^{-3}}$ | 20) $\frac{5x^2y^3}{8x^7y^5}\bullet\frac{4x^0y^3}{10x^3}$ |

Rewrite each expression in standard form: $ax^2+bx+c$

| | | |
|---|---|---|
| 21) $(3x-4)(5x+2)+2(5x-9)$ | 22) $4(3x-2)^2-3(4x+5)$ | 23) $(x+3)^2+(x-5)^2$ |

Factor:

| | | |
|---|---|---|
| 24) $2x^2+3x-9$ | 25) $2x^2+6x$<br>*Factor out the GCF<br>___( + ) | 26) $x^2-9$ |

Rewrite each equation in factored form and then simplify.

| | | |
|---|---|---|
| 27) $\frac{2x^2+3x-9}{x^2-9}$ | 28) $\frac{2x^2+6x}{4x}$ | 29) $\frac{2x^2+6x}{x^2-9}$ |

**Check your answers:**

| | | |
|---|---|---|
| 7-10:<br>$(x-1)^2+y^2=1$<br>$(x+3)^2+(y+6)^2=16$<br>$(x+1)^2+(y-3)^2=25$<br>$(x-4)^2+(y-3)^2=16$ | 11-20:<br>$\frac{y}{4x^8}$ $\frac{z^3}{x^8y^2}$ $\frac{z^4}{2x^{10}}$ $\frac{1}{x^5}$ $\frac{1}{25}$<br>$35x^6y^{10}$ $81x^8y^{16}$ $x^7$ $x^{12}$<br>$x^5$ 1 25 | 21-29<br>$15x^2-4x-26$ $(2x-3)(x+3)$ $\frac{2x-3}{x-3}$<br>$2x(x+3)$ $\frac{2x}{x-3}$ $(x+3)(x-3)$<br>$\frac{x+3}{2x}$ $2x^2-4x+34$ $36x^2-60x+1$ |