

Mixed Review 810

Write each expression in exponential form.

1) $(\sqrt{x})^3$

2) $(\sqrt[3]{6n})^5$

3) $\sqrt[3]{6v}$

4) $(\sqrt[5]{n})^3$

Write each expression in radical form.

5) $k^{\frac{5}{2}}$

6) $p^{\frac{7}{5}}$

7) $(10a)^{\frac{7}{5}}$

8) $(2x^3)^{\frac{1}{6}}$

Simplify.

9) $(81x^4)^{\frac{3}{2}}$

10) $(125x^6)^{\frac{4}{3}}$

11) $\sqrt{245m^4n^3}$

12) $\sqrt{128x^3y^2}$

13) $\sqrt[5]{256u^2v^5}$

14) $\sqrt[4]{243m^4n^5}$

Solve each equation.

15) $207 = -9 + n^{\frac{3}{2}}$

16) $2048 = 4v^{\frac{3}{2}}$

17) $\frac{16}{3} = 5 + (27p)^{-\frac{1}{3}}$

18) $11 = x^{\frac{2}{3}} + 7$

Solve each equation. Remember to check for extraneous solutions.

19) $3 + \sqrt{28 - 2n} = 7$

20) $72 = 8\sqrt{-3 - 28m}$

21) $\sqrt{3p + 40} = \sqrt{-10 - 2p}$

22) $\sqrt{3n + 37} = \sqrt{1 - n}$

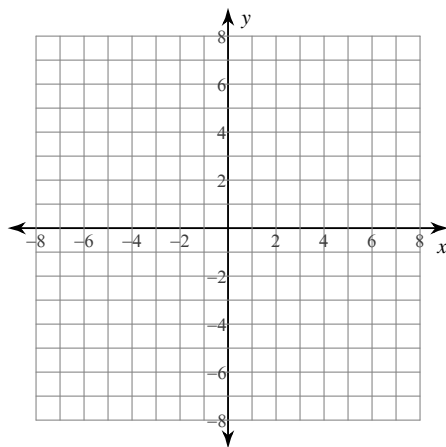
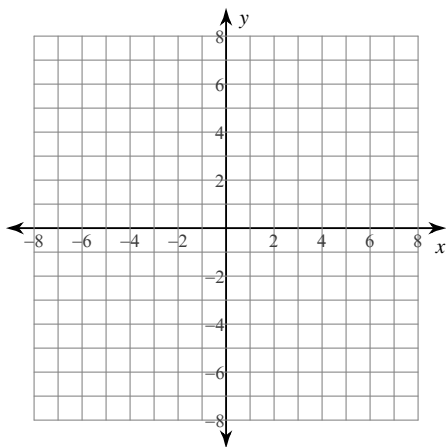
23) $x = \sqrt{11 - x} + 9$

24) $\sqrt{2k + 12} = k + 2$

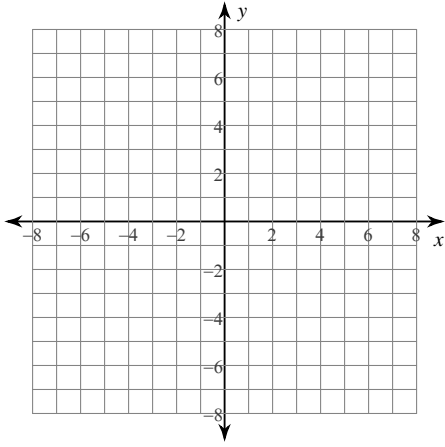
Classify each conic section, write its equation in standard form, and sketch its graph.

25) $49x^2 + 4y^2 - 196x = 0$

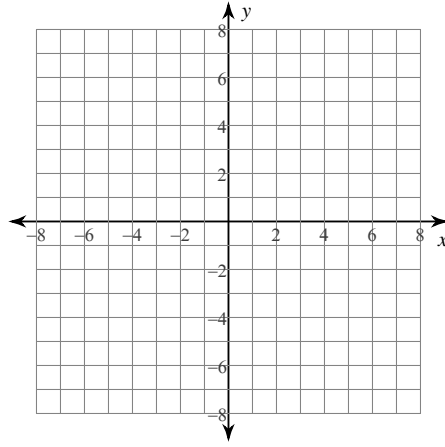
26) $x^2 + 6y^2 - 30 = 0$



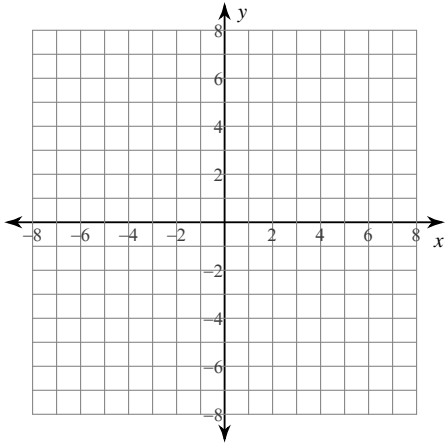
$$27) 9x^2 - 4y^2 - 36x - 8y - 4 = 0$$



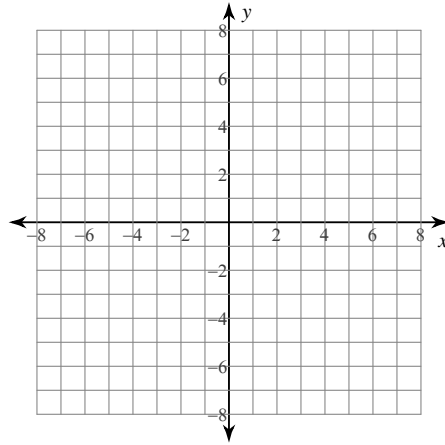
$$28) -2x^2 + y^2 - 4x - 12 = 0$$



$$29) x^2 + y^2 - 8x - 6y + 21 = 0$$



$$30) x^2 + y^2 - 2x - 11 = 0$$



Answers to Mixed Review 810 (ID: 1)

1) $x^{\frac{3}{2}}$

2) $(6n)^{\frac{5}{3}}$

3) $(6v)^{\frac{1}{3}}$

4) $n^{\frac{3}{5}}$

5) $(\sqrt{k})^5$

6) $(\sqrt[5]{p})^7$

7) $(\sqrt[5]{10a})^7$

8) $\sqrt[6]{2x^3}$

9) $729x^6$

10) $625x^8$

11) $7m^2n\sqrt{5n}$

12) $8xy\sqrt{2x}$

13) $2v\sqrt[5]{8u^2}$

14) $3mn\sqrt[4]{3n}$

15) $\{36\}$

16) $\{64\}$

17) $\{1\}$

18) $\{8, -8\}$

19) $\{6\}$

20) $\{-3\}$

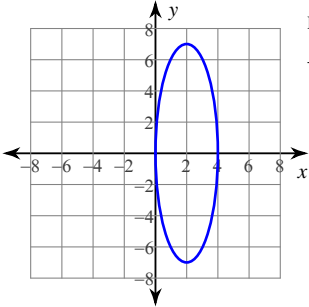
21) $\{-10\}$

22) $\{-9\}$

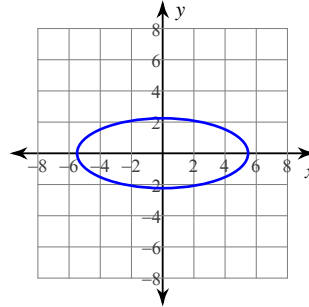
23) $\{10\}$

24) $\{2\}$

25)

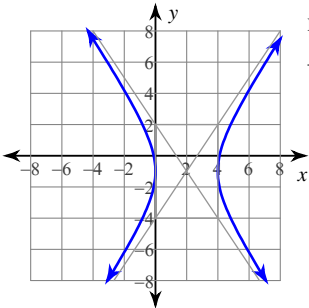


Ellipse
 $\frac{(x-2)^2}{4} + \frac{y^2}{49} = 1$



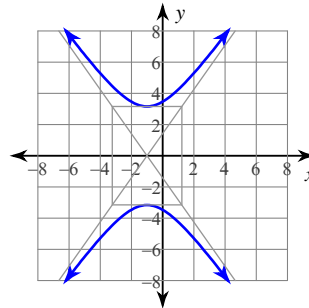
Ellipse
 $\frac{x^2}{30} + \frac{y^2}{5} = 1$

27)



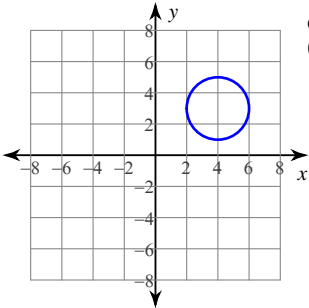
Hyperbola
 $\frac{(x-2)^2}{4} - \frac{(y+1)^2}{9} = 1$

28)



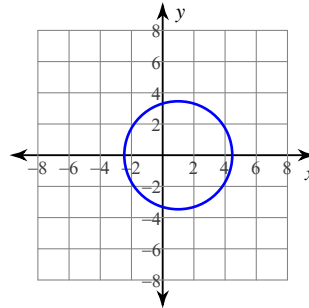
Hyperbola
 $\frac{y^2}{10} - \frac{(x+1)^2}{5} = 1$

29)



Circle
 $(x-4)^2 + (y-3)^2 = 4$

30)



Circle
 $(x-1)^2 + y^2 = 12$