Algebra 2 - Mr. C. - All work on looseleaf. Name_____

Week 8 Practice - Ref. Ch. 12-3

Date_____ Period____

Use the information provided to write the standard form equation of each ellipse.

1) Center: $(9, -9)$
Vertex: $(9, -20)$
Focus: $(9, -9 - \sqrt{57})$

2) Center: $(-2, 6)$
Vertex: $(-2, -6)$
Focus: $(-2, 6 + \sqrt{119})$

3) Center: $(-10, -9)$
Vertex: $(-10, -19)$
Focus: $(-10, -9 - \sqrt{19})$

4) Center: $(-2, 10)$
Vertex: $(-2, 21)$
Focus: $(-2, 10 - 6\sqrt{2})$

5) Center: $(-10, -10)$
Vertex: $(-10, -2)$
Focus: $(-10, -10 - 2\sqrt{15})$

6) Center: $(3, -8)$
Vertex: $(-10, -8)$
Focus: $(3 + 2\sqrt{30}, -8)$

7) Center: $(2, 9)$
Vertex: $(2, 20)$
Focus: $(2, 9 + \sqrt{105})$

8) Center: $(-10, -5)$
Vertex: $(-10, -19)$
Focus: $(-10, -5 - 4\sqrt{10})$

9) Vertices: $\left(\frac{17}{2}, 4\right), \left(\frac{17}{2}, -20\right)$
Co-vertices: $\left(\frac{21}{2}, -8\right), \left(\frac{13}{2}, -8\right)$

10) Vertices: $(6, 17), (6, -1)$
Co-vertices: $(14, 8), (-2, 8)$

11) Vertices: $(-2, 5), (-2, -13)$
Co-vertices: $(4, -4), (-8, -4)$

12) Vertices: $(2, 15), (2, -5)$
Co-vertices: $(7, 5), (-3, 5)$

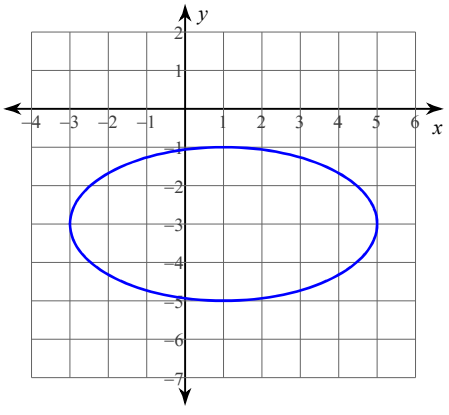
13) Vertices: $(6, 8), (6, -10)$
Co-vertices: $(11, -1), (1, -1)$

14) Vertices: $(-7, 4), (-7, -18)$
Co-vertices: $(1, -7), (-15, -7)$

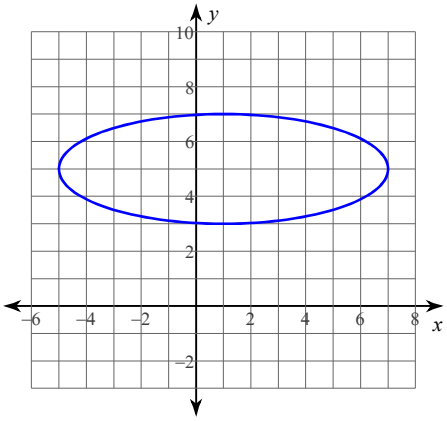
15) Vertices: $(2, 13), (2, -13)$
Co-vertices: $(5, 0), (-1, 0)$

16) Vertices: $(-5, 2 + 5\sqrt{5}), (-5, 2 - 5\sqrt{5})$
Co-vertices: $(-5 + 2\sqrt{15}, 2), (-5 - 2\sqrt{15}, 2)$

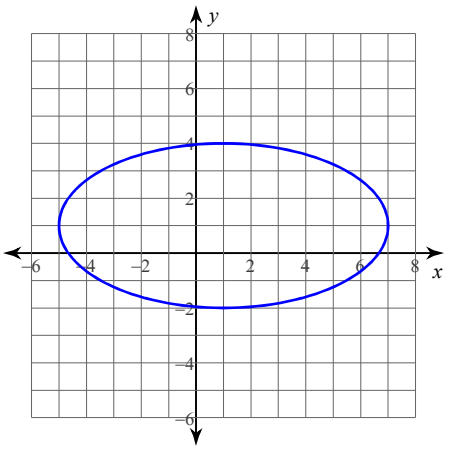
17)



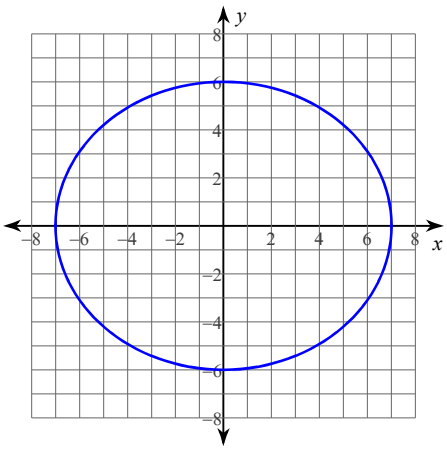
18)



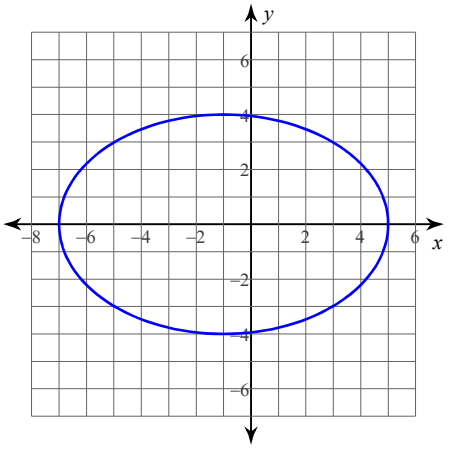
19)



20)



21)



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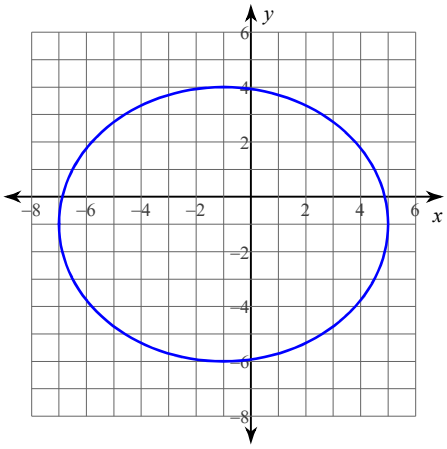

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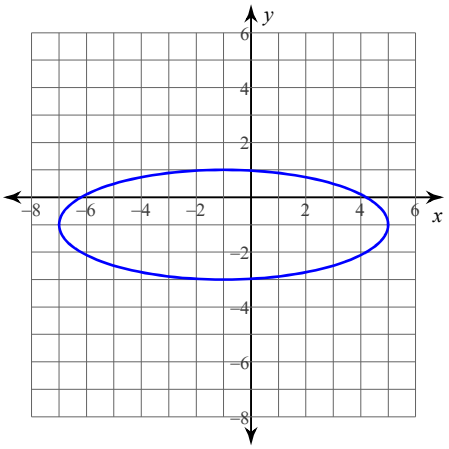

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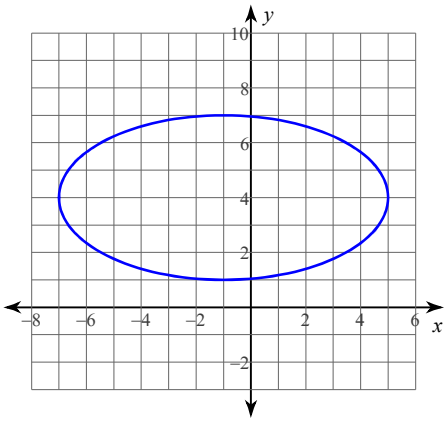

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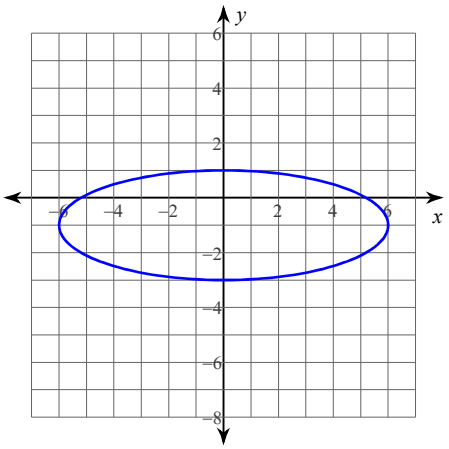

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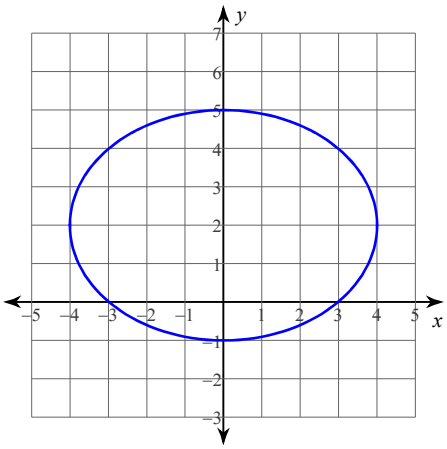
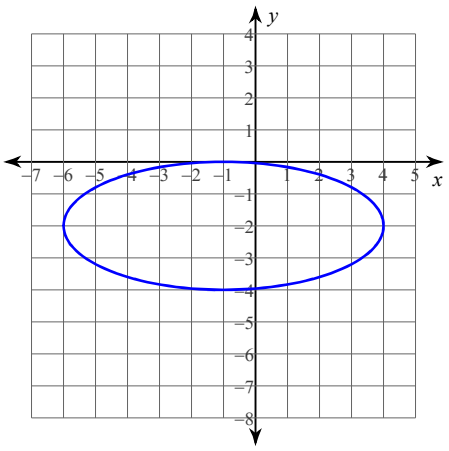
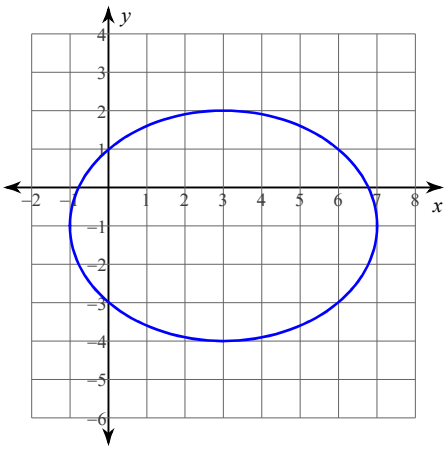


27)



28)



Identify the center, vertices, and foci of each. Then sketch the graph.

29) $\frac{x^2}{36} + \frac{y^2}{49} = 1$

30) $\frac{(x-1)^2}{25} + \frac{y^2}{49} = 1$

31) $\frac{(x+1)^2}{5} + \frac{(y-1)^2}{30} = 1$

32) $(x-1)^2 + \frac{(y-3)^2}{9} = 1$

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

34) $\frac{(x-2)^2}{9} + \frac{y^2}{36} = 1$

35) $\frac{(x-2)^2}{16} + \frac{y^2}{25} = 1$

36) $\frac{(x+1)^2}{16} + \frac{y^2}{49} = 1$

37) $\frac{x^2}{25} + \frac{y^2}{49} = 1$

38) $\frac{(x+1)^2}{36} + \frac{y^2}{49} = 1$

39) $\frac{(x+3)^2}{9} + \frac{(y-5)^2}{4} = 1$

40) $\frac{(x-1)^2}{20} + \frac{(y+2)^2}{25} = 1$

41) $(x-1)^2 + \frac{(y-3)^2}{16} = 1$

42) $\frac{(x-4)^2}{9} + \frac{y^2}{49} = 1$

43) $\frac{x^2}{9} + \frac{y^2}{49} = 1$

44) $\frac{(x-1)^2}{16} + \frac{y^2}{49} = 1$

Answers to Week 8 Practice - Ref. Ch. 12-3 (ID: 1)

1) $\frac{(x-9)^2}{64}+\frac{(y+9)^2}{121}=1$

2) $\frac{(x+2)^2}{25}+\frac{(y-6)^2}{144}=1$

3) $\frac{(x+10)^2}{81}+\frac{(y+9)^2}{100}=1$

4) $\frac{(x+2)^2}{49}+\frac{(y-10)^2}{121}=1$

5) $\frac{(x+10)^2}{4}+\frac{(y+10)^2}{64}=1$

6) $\frac{(x-3)^2}{169}+\frac{(y+8)^2}{49}=1$

7) $\frac{(x-2)^2}{16}+\frac{(y-9)^2}{121}=1$

8) $\frac{(x+10)^2}{36}+\frac{(y+5)^2}{196}=1$

9) $\frac{\left(x-\frac{17}{2}\right)^2}{4}+\frac{(y+8)^2}{144}=1$

10) $\frac{(x-6)^2}{64}+\frac{(y-8)^2}{81}=1$

11) $\frac{(x+2)^2}{36}+\frac{(y+4)^2}{81}=1$

12) $\frac{(x-2)^2}{25}+\frac{(y-5)^2}{100}=1$

13) $\frac{(x-6)^2}{25}+\frac{(y+1)^2}{81}=1$

14) $\frac{(x+7)^2}{64}+\frac{(y+7)^2}{121}=1$

15) $\frac{(x-2)^2}{9}+\frac{y^2}{169}=1$

16) $\frac{(x+5)^2}{60}+\frac{(y-2)^2}{125}=1$

17) $\frac{(x-1)^2}{16}+\frac{(y+3)^2}{4}=1$

18) $\frac{(x-1)^2}{36}+\frac{(y-5)^2}{4}=1$

19) $\frac{(x-1)^2}{36}+\frac{(y-1)^2}{9}=1$

20) $\frac{x^2}{49}+\frac{y^2}{36}=1$

21) $\frac{(x+1)^2}{36}+\frac{y^2}{16}=1$

22) $\frac{(x+1)^2}{36}+\frac{(y+1)^2}{25}=1$

23) $\frac{(x+1)^2}{36}+\frac{(y+1)^2}{4}=1$

24) $\frac{(x+1)^2}{36}+\frac{(y-4)^2}{9}=1$

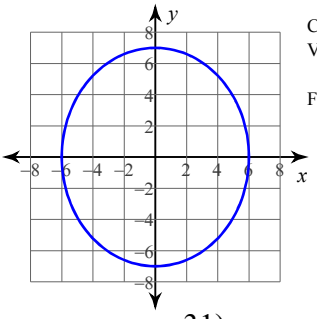
25) $\frac{x^2}{36}+\frac{(y+1)^2}{4}=1$

26) $\frac{x^2}{16}+\frac{(y-2)^2}{9}=1$

27) $\frac{(x+1)^2}{25}+\frac{(y+2)^2}{4}=1$

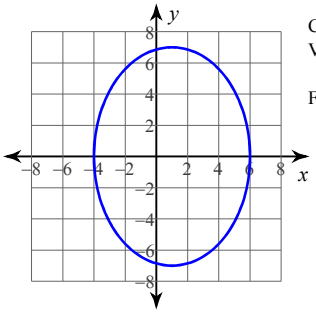
28) $\frac{(x-3)^2}{16}+\frac{(y+1)^2}{9}=1$

29)



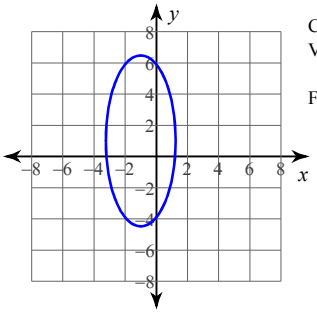
Center: $(0, 0)$
Vertices: $(0, 7)$
$(0, -7)$
Foci: $(0, \sqrt{13})$
$(0, -\sqrt{13})$

30)



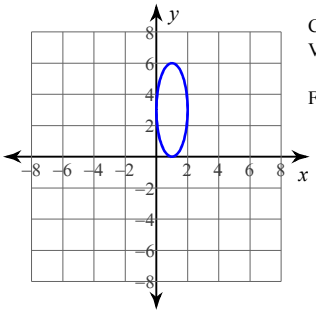
Center: $(1, 0)$
Vertices: $(1, 7)$
$(1, -7)$
Foci: $(1, 2\sqrt{6})$
$(1, -2\sqrt{6})$

31)



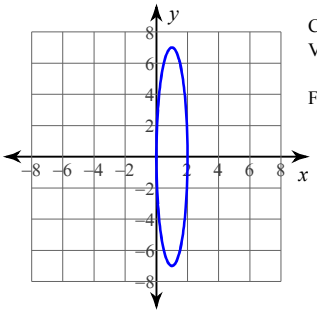
Center: $(-1, 1)$
Vertices: $(-1, 1+\sqrt{30})$
$(-1, 1-\sqrt{30})$
Foci: $(-1, 6)$
$(-1, -4)$

32)



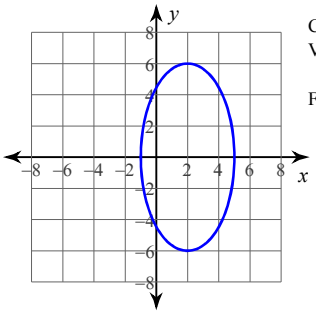
Center: $(1, 3)$
Vertices: $(1, 6)$
$(1, 0)$
Foci: $(1, 3 + 2\sqrt{2})$
$(1, 3 - 2\sqrt{2})$

33)



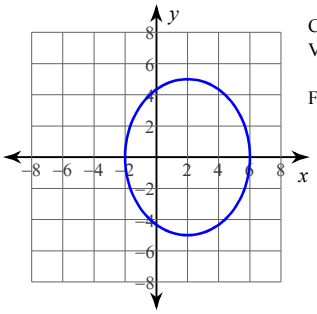
Center: $(1, 0)$
Vertices: $(1, 7)$
$(1, -7)$
Foci: $(1, 4\sqrt{3})$
$(1, -4\sqrt{3})$

34)



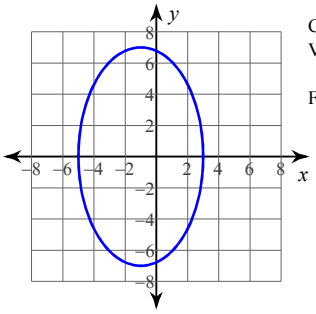
Center: $(2, 0)$
Vertices: $(2, 6)$
$(2, -6)$
Foci: $(2, 3\sqrt{3})$
$(2, -3\sqrt{3})$

35)



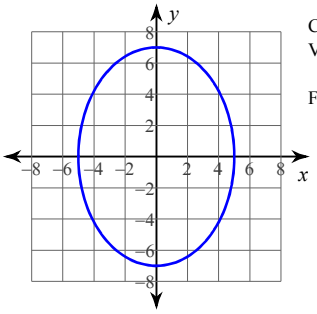
Center: $(2, 0)$
Vertices: $(2, 5)$
$(2, -5)$
Foci: $(2, 3)$
$(2, -3)$

36)



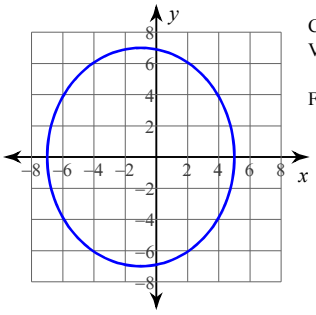
Center: $(-1, 0)$
Vertices: $(-1, 7)$
$(-1, -7)$
Foci: $(-1, \sqrt{33})$
$(-1, -\sqrt{33})$

37)



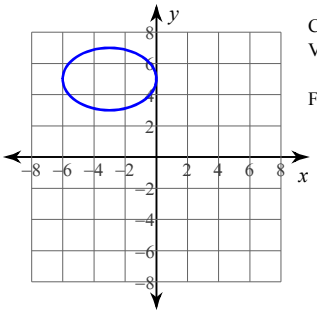
Center: $(0, 0)$
Vertices: $(0, 7)$
$(0, -7)$
Foci: $(0, 2\sqrt{6})$
$(0, -2\sqrt{6})$

38)



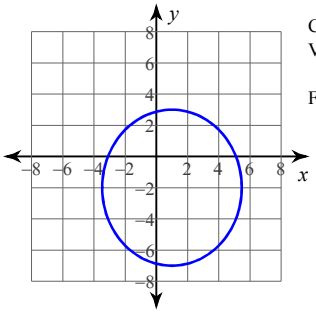
Center: $(-1, 0)$
Vertices: $(-1, 7)$
$(-1, -7)$
Foci: $(-1, \sqrt{13})$
$(-1, -\sqrt{13})$

39)



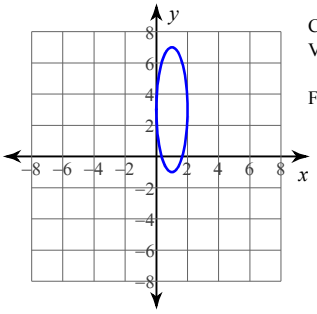
Center: $(-3, 5)$
Vertices: $(0, 5)$
$(-6, 5)$
Foci: $(-3 + \sqrt{5}, 5)$
$(-3 - \sqrt{5}, 5)$

40)



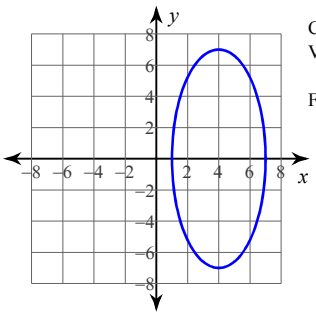
Center: $(1, -2)$
Vertices: $(1, 3)$
$(1, -7)$
Foci: $(1, -2 + \sqrt{5})$
$(1, -2 - \sqrt{5})$

41)



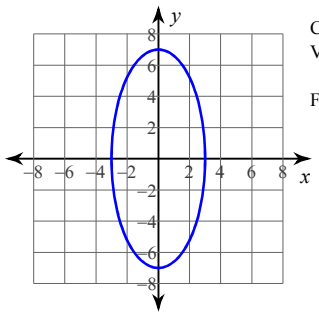
Center: $(1, 3)$
Vertices: $(1, 7)$
$(1, -1)$
Foci: $(1, 3 + \sqrt{15})$
$(1, 3 - \sqrt{15})$

42)



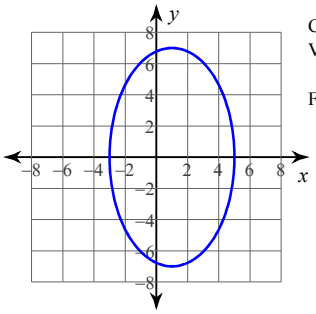
Center: $(4, 0)$
Vertices: $(4, 7)$
$(4, -7)$
Foci: $(4, 2\sqrt{10})$
$(4, -2\sqrt{10})$

43)



Center: $(0, 0)$
Vertices: $(0, 7)$
$(0, -7)$
Foci: $(0, 2\sqrt{10})$
$(0, -2\sqrt{10})$

44)



Center: $(1, 0)$
Vertices: $(1, 7)$
$(1, -7)$
Foci: $(1, \sqrt{33})$
$(1, -\sqrt{33})$