Algebra2/Trig Honors Name_____

Chapter 10 Review part II

Date_____ Period____

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

1) Center: $(-3, 10)$
Point on Circle: $(0, 10)$

2) Find the equation of a line that is tangent to $(x + 3)^2 + (y - 10)^2 = 5$ at $(-4, 8)$.

3) Center lies on the y-axis
Tangent to $y = -5$ and $x = 4$

4) Three points on the circle:
$(18, -3)$, $(18, -7)$, and $(-2, -3)$

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

5) Vertices: $(8, 6)$, $(8, -14)$
Foci: $(8, 4)$, $(8, -12)$

6) Vertices: $(8, 0)$, $(-18, 0)$
Foci: $(0, 0)$, $(-10, 0)$

7) Foci: $(10, 9)$, $(10, -7)$
Co-vertices: $(16, 1)$, $(4, 1)$

8) Vertices: $(14, 10)$, $(-14, 10)$
Co-vertices: $(0, 22)$, $(0, -2)$

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

9) Vertices: $(0, 12)$, $(0, -6)$
Foci: $(0, 18)$, $(0, -12)$

10) Vertices: $(16, 5)$, $(4, 5)$
Foci: $(20, 5)$, $(0, 5)$

11) Vertices: $(2, 0), (2, -20)$
Asymptotes: $y = 2x - 14$
$y = -2x - 6$

12) Vertices: $(15, -8), (1, -8)$
Asymptotes: $y = 2x - 24$
$y = -2x + 8$

Use the information provided to write the transformational form equation of each parabola.

13) Vertex: $(-2, 3)$, Focus: $(-2, 4)$

14) Vertex: $(1, 1)$, Focus: $\left(\frac{3}{4}, 1\right)$

15) Vertex: $(-4, 4)$, Directrix: $y = 3$

16) Vertex: $(0, 10)$, Directrix: $x = 1$

17) Focus: $(-9, -6)$, Directrix: $x = -7$

18) Focus: $(9, 11)$, Directrix: $y = 9$

Solve each system of equations.

19) $6x^2 - 4y^2 + 129x - y + 128 = 0$
$-3x + y - 4 = 0$

20) $-2x^2 + y^2 - 23x + 3y - 100 = 0$
$x + y = -3$

21) $x^2 - y^2 + 10x - 8y + 5 = 0$
$8x^2 + y^2 + 80x + 8y + 184 = 0$

22) $2x^2 + y^2 + 12x - 182 = 0$
$2x^2 + y^2 + x - 105 = 0$

23) $6x^2 + 36x + 5y - 5 = 0$
$-6x^2 + 9y^2 - 36x - 77y + 68 = 0$

24) $2x^2 + 2y^2 - 28x + 13y + 96 = 0$
$2x^2 - 22y^2 - 28x + 13y - 96 = 0$

Answers to Chapter 10 Review part II (ID: 1)

1) $(x+3)^2+(y-10)^2=9$

2) $y=-\frac{1}{2}x+6$

3) $x^2+(y+9)^2=16$; or $x^2+(y+1)^2=16$

4) $(x-8)^2+(y+5)^2=104$

5) $\frac{(x-8)^2}{36}+\frac{(y+4)^2}{100}=1$

6) $\frac{(x+5)^2}{169}+\frac{y^2}{144}=1$

7) $\frac{(x-10)^2}{36}+\frac{(y-1)^2}{100}=1$

8) $\frac{x^2}{196}+\frac{(y-10)^2}{144}=1$

9) $\frac{(y-3)^2}{81}-\frac{x^2}{144}=1$

10) $\frac{(x-10)^2}{36}-\frac{(y-5)^2}{64}=1$

11) $\frac{(y+10)^2}{100}-\frac{(x-2)^2}{25}=1$

12) $\frac{(x-8)^2}{49}-\frac{(y+8)^2}{196}=1$

13) $4(y-3)=(x+2)^2$

14) $-(x-1)=(y-1)^2$

15) $4(y-4)=(x+4)^2$

16) $-4x=(y-10)^2$

17) $-4(x+8)=(y+6)^2$

18) $4(y-10)=(x-9)^2$

19) $(2, 10), (-1, 1)$

20) $(-10, 7)$

21) $(-7, -4), (-3, -4)$

22) $(7, 0)$

23) $(-1, 7), (-5, 7), (0, 1), (-6, 1)$

24) No solution.