Algebra 2
Chapter 8 Review

Name: _____
Period: _____

For each parabola described, use the information given to find the location of the missing feature.

1. F: $(2,5)$, D: $y=-3$, V: ?

2. D: $x=4$, V: $(1,2)$, F: ?

Find the equation of the parabola with the given information, then sketch a complete graph.

3. D: $x=6$, V: $(1,-2)$

4. V: $(-6,5)$, F: $(2,5)$

5. Find the distance between $(-4,3)$ and $(7,-2)$.

6. If the distance between two points is $\sqrt{55}$ and the points are $(5,-1)$ and $(x,-7)$, solve for x.

Write the equation of the circle in standard form. State the center and the radius.

7. $x^2+8x+y^2-10y-35=0$

8. $x^2-16x+y^2+6y+3=0$

Write the equation of the circle in expanded form.

9. Center: $(3,-9)$, Radius: $\sqrt{11}$

10. Center: $(8,4)$, Area: 16π

11. Jacob conducts a survey in which at least 70% of the participants should be boys. So far he has surveyed 32 boys and 48 girls. If he surveys only boys from now on, how many more boys must participate to meet the survey requirements?

12. Dylan's basketball team's record is 12 wins and 18 losses. How many consecutive games must the team win so that its winning record reaches over 65%?

13. Blaire has 400 milliliters of a solution that is 38% acid and 62% water. How much water should she add to get a solution that is 30% acid and 70% water?

Simplify.

14. $\dfrac{2x+3}{x^2-2x}-\dfrac{14}{x^2-4}$

15. $\dfrac{7}{x+6}-\dfrac{4}{x-5}$

16. $\dfrac{14x-2x^2}{2x^2-13x-7}$

17. $\dfrac{27+9m}{45}$

18. $\dfrac{16x+10}{49x+98}\div\dfrac{64x^2-25}{7x^2+28x+28}$

19. $\dfrac{8ab+12b^2}{4a^2-9b^2}$

20. $\dfrac{2}{4x^2-9}+\dfrac{x}{2x^2-9x-18}$

21. $\dfrac{a^2+2ab-8b^2}{a-b}\cdot\dfrac{a^2-b^2}{3a-6b}$

22. $\dfrac{3x-1}{x^2+3x}+\dfrac{2}{x^2-x-12}$

23. $\dfrac{9x+12}{4x^2}\div\dfrac{3x^2-17x-28}{16x}$

Solve.

24. $\dfrac{x}{9}-\dfrac{x}{5}=2$

25. $\dfrac{x}{9}-\dfrac{4x}{3}=5$

26. $8=\dfrac{6x+5}{4-3x}$

27. $7=\dfrac{3x-4}{x+8}$

28. $-5=\dfrac{9-4x}{2x+3}$

29. Using the parent function $y=\dfrac{1}{x}$, write the equation of the function that has been translated right 4, up 3, reflected over the x-axis and vertically dilated by a factor of 6.

30. Using the parent function $y=\frac{1}{x^2}$, write the equation of the function that has been translated left 8, down 9, and vertically dilated by a factor of 12.

Given the equation, write the domain, range and asymptotes. Then sketch a graph of the function.

31. $f(x)=\frac{3}{x-2}-5$

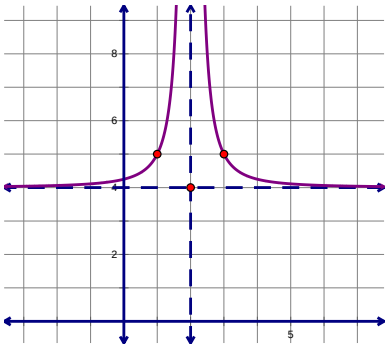
32. $g(x)=-\frac{2}{x-4}-3$

33. $h(x)=\frac{4}{x^2}+1$

34. $j(x)=\frac{1}{(x-5)^2}-2$

Given the graph, find the equation of the function.

35.



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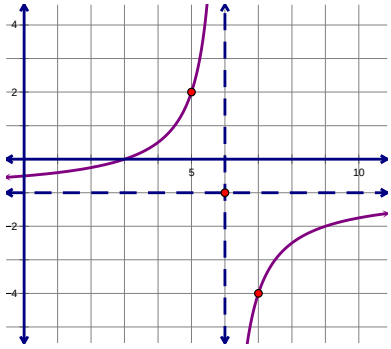

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