NAME: $\qquad$ HOUR: $\qquad$
1-2 Find the axis of symmetry of the following quadratics.

1. $f(x)=x^{2}+18 x-13$
2. $g(x)=-3 x^{2}+24 x-5$

## ANSWER:

ANSWER:

3-4 Change the following functions from Standard Form to Vertex Form.
3. $f(x)=x^{2}-6 x-10$
4. $g(x)=-x^{2}+6 x+7$

## ANSWER:

## ANSWER:

5-6 Change the following functions from Vertex Form to Standard Form.
5. $f(x)=(x+2)^{2}-22$
6. $g(x)=-3(x-2)^{2}+7$

ANSWER:
ANSWER:

7-8 Find the Max or Min value for the following quadratics. Hint: You will need to find the vertex.
7. $f(x)=2 x^{2}+8 x-3$
8. $h(x)=-7 x^{2}-3 x-3$

## ANSWER:

## ANSWER:

9-10 Identify the transformation of the quadratics. Hint: You will need to put them in vertex form.
9. $m(x)=-x^{2}+12 x+1$
10. $t(x)=2 x^{2}+12 x-1$

11-14 Find the zeros for the following quadratics.
11. $f(x)=(x-3)(x+10)$

## ANSWER:

13. $h(x)=(2 x-3)(6 x+5)$

ANSWER:
12. $g(x)=(x-92)(2 x+6)$

## ANSWER:

14. $k(x)=(5 x+4)(-3 x-6)$

ANSWER:

15-17 Solve the Functions Using the given graphs.
15. The graph below is the function $f(x)=x^{2}-4$, the related graph to the given equation. Use the graph to solve the given equation.

$$
x^{2}-4=0
$$


16. Use the given graph to solve the given equation using points of intersection:

Equation: $(x+3)^{2}=2$

$\mathrm{f}(\mathrm{x})=(x+3)^{2}$
$g(x)=2$
18. Find the axis of symmetry, vertex, $y$-intercept, and two points of the function below and graph it in the given coordinate plane.
Then state the solutions.
$y=2 x^{2}+4 x-6$
Axis of Symmetry:
Vertex:
Y-Intercept:
Two Points:
Solutions


19-22 Find the value of the Discriminant, then use it to find the number and type of solutions.
19. $-4 x^{2}-2 x-11=0$
20. $8 x^{2}+6 x-18=-16$

## ANSWER:

21. $x^{2}+4 x-1=-5$

ANSWER:
22. $12 x^{2}-2 x-18=0$

## ANSWER:

## ANSWER:

23. A pie is launched at a velocity of 32 feet per second into the air from a platform 8 feet above a circus clown. The following equation represents the height of the pie from the clown's head, $h(t)=-16 t^{2}+32 t+8$ where t is time in seconds. What is the max height the pie could reach?

## Max Height:

