

Algebra
WS: CH 5 pretest

NAME _____
PERIOD _____

Factor . 1. $x^2 + 5x - 24$

2. $9x^2 - 25$

3. $5x^2 - 15x - 20$

4. $15x^2 + 47x + 28$

Solve by factoring

5. $x^2 + 5x = -6$

6. $2x^2 - 2x + 2 = 5 - 3x$

7. $8x^2 - 2 = 15x$

Solve by taking the square root

8. $x^2 - 3 = 13$

9. $2x^2 + 7 = 295$

10. $3(x-2)^2 + 4 = 31$

Solve by completing the square

11. $x^2 + 6x + 123 = 0$

12. $2x^2 + 8x = 144$

13. $x^2 - 10x - 13 = 0$

Solve by the quadratic formula

14. $2x^2 - 6x + 17 = 0$

15. $3x^2 - x = 6$

16. $4x^2 + 2x - 9 = 0$

Write each of the following in standard form

17. $(3+i)(5-i)$

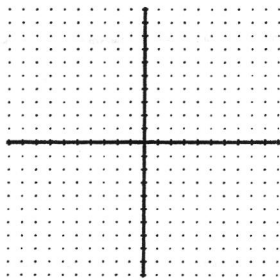
18. $(6+i) - (2-i)$

19. $\frac{7}{3-i}$

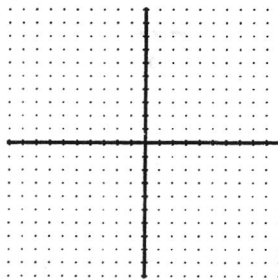
20. $\frac{2-i}{4+i}$

Draw a parabola with the given Discriminant.

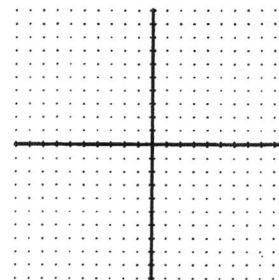
21. $D = 15$



22. $D = 0$



23. $D = -6$



Solve the following inequalities

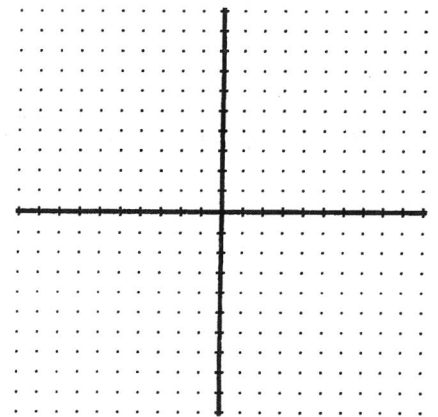
24. $x^2 - 6 > 6$

25. $x^2 + 6x \leq 8$

26. $4x - 5 < x^2$

Graph and shade the following inequality, use a 5 point table.

27. $y < x^2 - 2x - 8$



27. Answer the following questions about the function given:

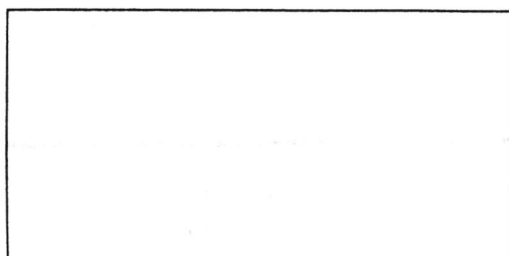
$$y = -6x^2 - 5x - 4$$

What is the shape of the graph?

What are the coordinates of the vertex?

What is the axis of symmetry (give an equation)

Does it open up or down?



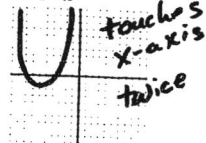
$2x+6$

x

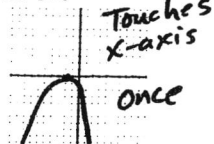
28. If the area of the rectangle shown is 56 in^2 , what are the dimensions?

Draw a parabola with the given Discriminant.

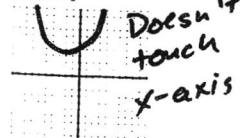
21. $D = 15$



22. $D = 0$

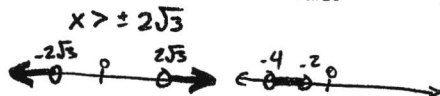


23. $D = -6$

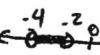


Solve the following inequalities

24. $x^2 - 6 > 6$



25. $x^2 + 6x \leq 8$



26. $4x - 5 < x^2$

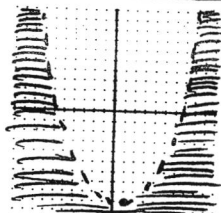
Bad problem.

Graph and shade the following inequality, use a 5 point table.

27. $y < x^2 - 2x - 8$

3	-5
2	-8
1	-9
0	-8
-1	-5

$V = 1, -9$



27. Answer the following questions about the function given:

What is the shape of the graph?

parabola

What is the axis of symmetry (give an equation)

$x = -\frac{5}{12}$

$y = -6x^2 - 5x - 4$

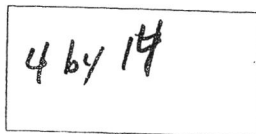
What are the coordinates of the vertex?

$(-\frac{5}{12}, -\frac{71}{24})$

Does it open up or down?

Down

28. If the area of the rectangle shown is 56 in^2 , what are the dimensions?



$2x + 6$

$(2x + 6)(x) = 56$

$2x^2 + 6x = 56$

$2x^2 + 6x - 56 = 0$

$(2)(x + 7)(x - 4) = 0$

$x = -7 \text{ or } 4$

but no negative length so.

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Factor 1. $x^2 + 5x - 24$

$(x+8)(x-3)$

2. $9x^2 - 25$

$(3x+5)(3x-5)$

3. $5x^2 - 15x - 20$

$5(x-4)(x+1)$

4. $15x^2 +$

$(5x +$

Solve by factoring

5. $x^2 + 5x = -6$

$-2, -3$

6. $2x^2 - 2x + 2 = 5 - 3x$

$-\frac{3}{2}, 1$

7. $8x^2 - 2$

$\frac{1}{8},$

Solve by taking the square root

8. $x^2 - 3 = 13$

± 4

9. $2x^2 + 7 = 295$

± 12

10. $3(x - 2)$

$5, -$

Solve by completing the square

11. $x^2 + 6x + 123 = 0$

$-3 \pm \sqrt{114} i$

12. $2x^2 + 8x = 144$

$-2 \pm 2\sqrt{19}$

13. $x^2 - 10$

$5 \pm$

Solve by the quadratic formula

14. $2x^2 - 6x + 17 = 0$

$\frac{3}{2} \pm \frac{5}{2} i$

15. $3x^2 - x = 6$

$\frac{1}{6} \pm \frac{\sqrt{73}}{6}$

16. $4x^2 + 2$

$-\frac{1}{4} \pm i$

Write each of the following in standard form

17. $(3+i)(5-i)$

$16 + 2i$

18. $(6+i)(2-i)$

$4 + 2i$

19. $\frac{7}{3-i}$

$\frac{21}{10} + \frac{7}{10} i$

20. $\frac{2-i}{4+i}$

$\frac{7}{17} - i$