

Chapter 5 Assessment

Show your work clearly, and check your answers over carefully. Please clearly label your graphs on the graph paper provided.

1. Write a quadratic equation that models the data in the table below:

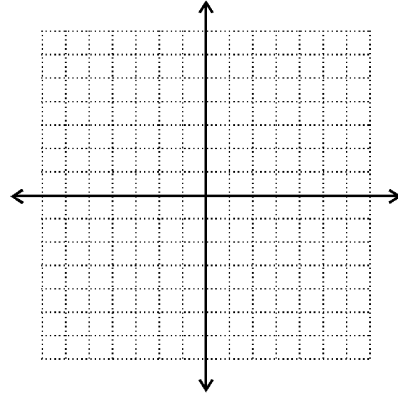
x	-2	-1	0	2	5	8
y	-7	2	7	5	-28	-97

3. *Mult. Choice:* The graph of $y = 2x^2 - 16x - 5$ has been shifted how many units horizontally?

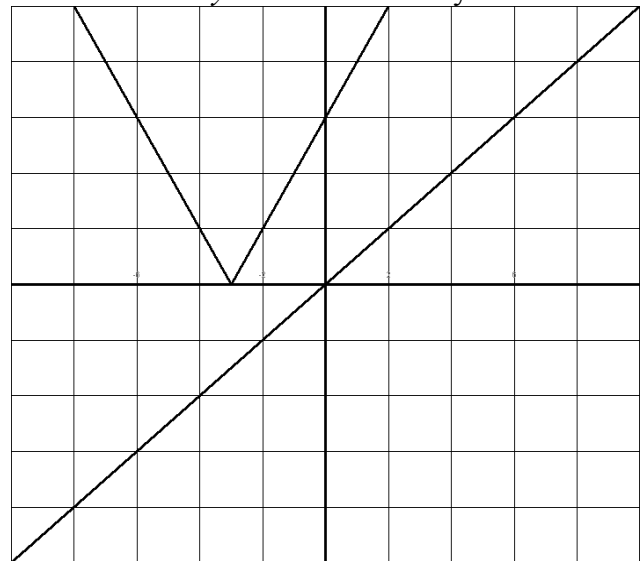
- a) left 4
- b) right 8
- c) left 8
- d) right 4

5. Find the inverse of the function $y = 2x - 5$ (4 points)

2. On the graph paper provided, sketch the parabola whose vertex is $(-4, -2)$ and also goes through the point $(1, 2)$.



4. Sketch the inverse of the parabola shown below. The line $y = x$ is shown for you.



Simplify each expression

6. $(3 + 7i) + (-5 + 8i)$

7. $(5 + 2i)(4 - 5i)$

8. $(8 + 5i) - (4 - 7i)$

9. $3\sqrt{-49} + \sqrt{-36}$

10. $\frac{\sqrt{-50}}{\sqrt{-100}}$

11. $\frac{3 + 2i}{4 - 5i}$

Show the work in factoring the following.

11. $x^2 - 3x - 40$

12. $6x^2 - 5x - 6$

Show your work in solving each equation using the method given. (4 points each)

13. $2x^2 - 7x + 6 = 0$ (factoring)

14. $15 = x^2 + 12x + 5$ (completing the square)

15. $8x^2 + 5x - 15 = 3x$ (Quadratic Formula)

16. $4x^2 - 4x + 10 = 7$ (Quadratic Formula)

17. Expand $y = 3(x + 4)^2 - 7$ into *standard form*.

18. Convert $y = 3x^2 - 36x + 7$ into vertex form.

For each quadratic equation, find the *discriminant* ($b^2 - 4ac$), and indicate how many *real solutions* the equation has.

19. $0 = 2x^2 + 5x - 4$

20. $0 = 3x^2 + 4x + 8$

Discr.: _____, # of real sol'ns: _____

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21. Four-hundred and sixty feet of fence is to be used to make a holding pen for animals alongside a wall. Find the length for x that will allow the fence to enclose the maximum amount of area.

