

Algebra 2 Review Quiz LOOKALIKE (Chapters 1-6)
YOU MUST SHOW ME YOUR SCRATCH WORK, SO DON'T LOSE IT.

Name _____

_____ 1. Solve: $5(2n + 3) = n + 10 + 9n + 5$

_____ 2. Solve: $\frac{2n + 6}{6} = \frac{n + 5}{2}$

_____ 3. Solve: $-3(2a - 4) = -2(2a + 8)$

_____ 4. Solve: $|n + 1| - 4 = 10$

_____ 5. In interval notation, what is $x < 3$?

_____ 6. What is the DOMAIN of Graph 1 on the Graph Page?
A. $[-3, 3)$ B. $(-3, 3]$ C. $(-2, 1]$ D. $[-2, 1)$

_____ 7. What is the RANGE of Graph 1 on the Graph Page?
A. $[-3, 3)$ B. $(-3, 3]$ C. $(-2, 1]$ D. $[-2, 1)$

_____ 8. What is the domain of $f(x) = \sqrt{x - 3}$?
A. **R** except $x \neq 3$ B. **R**: $x > 3$ C. **R**: $x \geq 3$ D. **R**

_____ 9. What is the domain of $f(x) = \frac{2x}{x + 6}$?
A. **R** except $x \neq -6$ B. **R**: $x > -6$ C. **R**: $x \geq -6$ D. **R**

_____ 10. Looking at Graph 2, what interval is the graph **decreasing**?
A. $(-\infty, -1.2)$ $(1.2, \infty)$ B. $(-1.2, 1.2)$
C. $(-\infty, -2)$ $(2, \infty)$ D. $(-1.2, 3)$

_____ 11. Factor $x^2 - 25$

_____ 12. Factor $x^2 - 9x + 20$

_____ 13. What is the x-intercept of $f(x) = x^2 + 7x + 10$?

_____ 14. What is the y-intercept of $f(x) = x^2 + 9x + 20$?

- _____ 15. When graphing $f(x) = 9(x + 2)^3 - 5$, what is true?
- A. The graph shifted right 2 units
 - B. The graph stretched horizontally
 - C. The graphed shifted up 5 units
 - D. None of these things happened.

Look at the graphs on the graph sheet and determine the equation of graph 3 and 4.

_____ 16. Graph 3

_____ 17. Graph 4

_____ 18. Simplify: $\sqrt[3]{8a^6}$

_____ 19. Simplify: $\sqrt{18} + \sqrt{50}$

_____ 20. Simplify: $\frac{2}{\sqrt{3}}$

_____ 21. Simplify: $\frac{2 + \sqrt{2}}{2 - \sqrt{2}}$

_____ 22. Simplified to its lowest value, what is i^{19} ?

A. 1 B. -1 C. i D. -i

_____ 23. Simplify $(4 - 3i)(5 - 2i)$

_____ 24. In simplified radical form, what is $x^{\frac{3}{5}} \cdot x^{\frac{1}{4}}$

A. $\sqrt[9]{x^{10}}$ B. $\sqrt[5]{x^4}$ C. $x\sqrt[7]{x^3}$ D. $\sqrt[20]{x^{17}}$

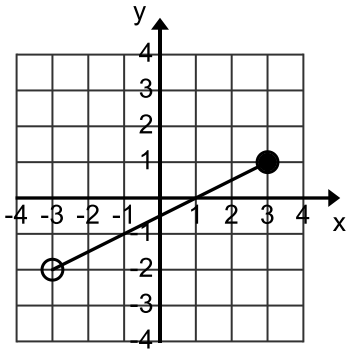
_____ 25. In simplified radical form, what is $\left(x^{\frac{2}{3}}\right)^{\frac{4}{5}}$

A. $\sqrt[15]{x^8}$ B. $x\sqrt[7]{x^6}$ C. $x\sqrt[15]{x^7}$ D. $x\sqrt[15]{x^3}$

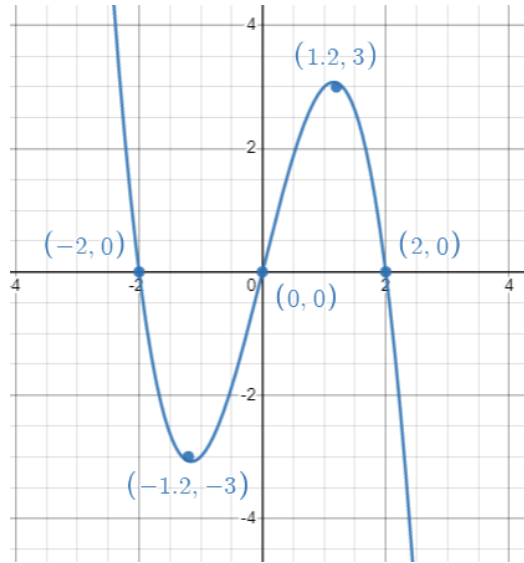
- _____ 26. Solve for x: $3\sqrt{7x+2} + 1 = 13$
- _____ 27. Factor $3n^2 + 11n + 6$
- _____ 28. Use factoring to solve $2n^2 + n - 10 = 0$
- _____ 29. Solve for the variable using your knowledge of square roots:
 $2(x + 2)^2 - 32 = 0$
- _____ 30. If the discriminant value of a quadratic is 12,
how many solutions exist?
- _____ 31. What would have been the discriminant value of the
equation in Graph 5?
- _____ 32. Use the quadratic equation to solve $4x^2 + 5x + 1 = 0$.
Round your answers to the nearest tenth.

Graph Page

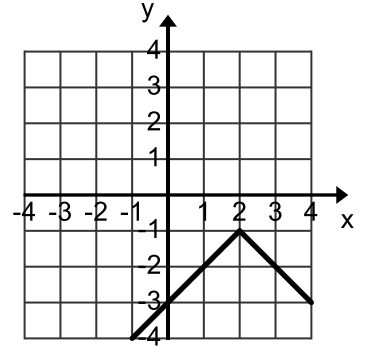
Graph 1



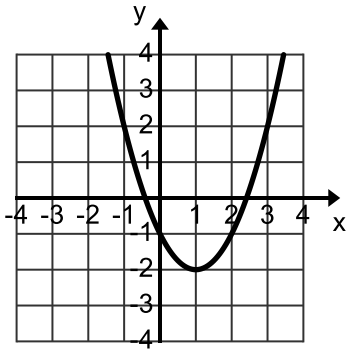
Graph 2



Graph 3



Graph 4



Graph 5

