

Honors Algebra 2  
Chapter 7 Review Sheet  
Actual test has 25 questions

Simplify

1.  $\sqrt{12x^7y^3}$

2.  $3\sqrt[3]{32x^9y^4}$

3.  $-3\sqrt[3]{-64x}$

4.  $\sqrt[4]{54xy^5}$

5.  $\sqrt{16x^2+8x+1}$

6.  $\sqrt{\frac{5}{4}}$

7.  $\frac{5}{\sqrt{2}}$

8.  $\frac{6}{\sqrt{2x}}$

9.  $\frac{3}{2-\sqrt{3}}$

Evaluate or simplify each expression

17.  $27^{\frac{2}{3}}$

18.  $(8x^6y^{-9})^{-\frac{2}{3}}$

19.  $\sqrt[4]{9x^2y^6}$

Write as a single radical expression

20.  $x^{\frac{1}{3}}y^{\frac{3}{4}}z^{\frac{5}{6}}$

Solve

21.  $\sqrt{1-3x}-3=4$

10. Approximate using your calculator:

$$\sqrt[9]{752} - 56^{3/4} - \sqrt[3]{75}$$

Add

11.  $7\sqrt{3}+4\sqrt{3}-4\sqrt{3}$

12.  $3\sqrt{2}+5\sqrt{18}-2\sqrt{128}$

13.  $2\sqrt{10}-4\sqrt{5}+2\sqrt{20}-4\sqrt{40}$

22.  $7+\sqrt{5x+4}=0$

23.  $\sqrt[3]{5x+2}=\sqrt[3]{-8}$

Multiply

14.  $(\sqrt{x}-2)(\sqrt{x}+4)$

15.  $(x-\sqrt{3})^2$

24.  $\sqrt{x-9}=9-\sqrt{x}$

Express in radical form

15.  $x^{\frac{3}{5}}$

25.  $\sqrt{x-3}-3>1$

Express using rational exponents

16.  $\sqrt[4]{x^3y^5}$

26. If  $f(x) = 3x + 7$  and  $g(x) = 2x - 5$ , what is  $[g \circ f](-3)$ ?

27. If  $f(x) = x^2$  and  $g(x) = 3x - 1$ , what is  $f(g(x))$ ?

28. If  $f(x) = \{(3, 2), (4, -5)\}$  and  $g(x) = \{(11, 3), (1, 4)\}$ , what is  $[f \circ g](x)$ ?

29. Find the inverse of the relation  $\{(-2, 5), (0, 4), (1, -8), (4, 7)\}$

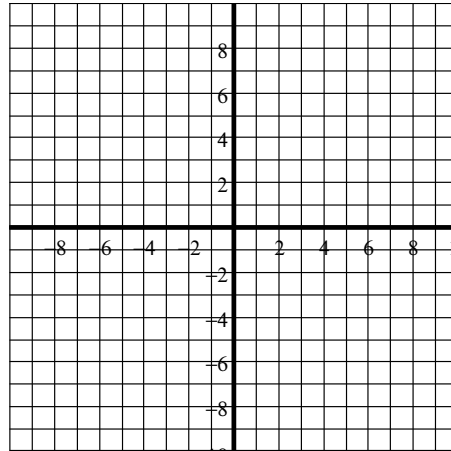
30. Find the inverse of the function  $f(x) = 4x - 2$

31. Determine whether  $g(x) = 3x - 6$  and  $f(x) = \frac{1}{3}x + 2$  are inverses.

Support your answer by using composition of functions.

32. State the domain and range of  $y = 2 + \sqrt{x - 3}$

33. Graph:  $y \leq 2 + \sqrt{x - 3}$



34. Graph the inverse relation of the given graph.

