

**Algebra Unit 8--STUDY GUIDE**

1. Simplify the radical expressions. YOU MAY NOT USE A CALCULATOR FOR Q. 1-20.

$$10\sqrt{17c} + 6\sqrt{14a} - 2\sqrt{17c} - 3\sqrt{14a}$$

2.

$$4\sqrt{3b} - 6\sqrt{10h} - 2\sqrt{3b} + 9\sqrt{10h}$$

3. List the perfect squares from 1-400

8.  $\frac{4}{6 + \sqrt{3}}$

*Find the product.*

9.  $(-4t - 6v)(-6t - 4v)$

10.  $(5r - 6)^2$

11.  $2\sqrt{24} + \sqrt{54} + 3\sqrt{150}$

12.  $\frac{3}{\sqrt{13}}$

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

14.  $\sqrt{\frac{11}{7}}$

15.  $\sqrt{\frac{14}{5}}$

**Simplify each expression.**

4.  $\sqrt{\frac{x^2}{12}}$

5.  $\sqrt{15} \cdot 2\sqrt{5}$

6.  $\sqrt{17} \cdot \sqrt{13}$

7.  $\frac{10}{9 + \sqrt{10}}$

16. List the perfect cubes from 1-125

17.  $\sqrt{72z^2y^4}$

18.  $\sqrt{8d^4c^6}$

19. Simplify  $\sqrt{50x^{21}y^{36}}$ .

20. Simplify:

$$\sqrt[3]{343x^3y^6}$$

21. Simplify:

$$\sqrt[3]{125p^{12}r^3}$$

Write the equation in slope-intercept form. YOU MAY USE YOUR CALCULATOR FOR THE REST OF THE TEST.

22.  $y - 5 = -(x - 1)$

Use elimination to solve the system of equations.

23.  $-2x + 9y = 3$

$$-2x + 3y = 9$$

24.  $3x - 3y = 6$

$$-8x + 9y = 1$$

Simplify.

25.  $(a^3b^5)(a^3b^3)$

26.  $(6g^3h^3)^3$

27.  $\frac{40m^{-3}n^7}{2mn^{-2}p^{-2}}$

28.  $\frac{44m^{-5}n^6}{2mn^{-3}p^{-2}}$

29.  $(a^4b^5)(a^3b^5)$

30.  $(2g^3h^3)^4$

Find the sum or difference.

31.  $(10p - 6q^2 - q) - (q^2 - 3p + 6p^2)$

32.  $(5a - 3a^2) + (8 + 7a)$