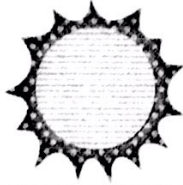


Algebra 2 Spring 2014
Practice Quiz 6.1 - 6.3



Good Luck: Key

1. Simplify $\sqrt[3]{-250a^8b^{14}}$

$$\sqrt[3]{-125 \cdot 2 \cdot a^6 \cdot a^2 \cdot b^{12} \cdot b^2}$$

$$\sqrt[3]{(-25)^3 \cdot 2 \cdot (a^2)^3 \cdot a^2 \cdot (b^4)^3 \cdot b^2}$$

$$-25a^2b^4\sqrt[3]{2a^2b^2}$$

$-25a^2b^4\sqrt[3]{2a^2b^2}$

2. Simplify $3\sqrt{48} + 4\sqrt{12}$

$$3\sqrt{16 \cdot 3} + 4\sqrt{4 \cdot 3}$$

$$3\sqrt{(4)^2 \cdot 3} + 4\sqrt{(2)^2 \cdot 3}$$

$$12\sqrt{3} + 8\sqrt{3} = 20\sqrt{3}$$

$20\sqrt{3}$

3. Simplify $\frac{(-3xy)(8x^3y^5)}{6x^6y^2}$

$$\frac{-24x^4y^6}{6x^6y^2} = \frac{-3y^4}{x^2}$$

$-\frac{3y^4}{x^2}$

4. Simplify $\frac{7}{3-\sqrt{5}} \cdot \frac{3+\sqrt{5}}{3+\sqrt{5}}$

$$= \frac{21+7\sqrt{5}}{9+3\sqrt{5}-3\sqrt{5}-\sqrt{25}} = \frac{21+7\sqrt{5}}{9-5}$$

$$= \frac{21+7\sqrt{5}}{4} = \frac{21}{4} + \frac{7\sqrt{5}}{4}$$

$\frac{21}{4} + \frac{7\sqrt{5}}{4}$

5. Simplify $\sqrt[3]{\frac{81a^{18}}{3a^6}}$

$$= 3\sqrt[3]{27a^{12}}$$

$$= \sqrt[3]{(3)^3 \cdot (a^4)^3}$$

$$= 3a^4$$

$3a^4$

6. Simplify $3\sqrt{5} \cdot 2\sqrt{60}$

$$= 6\sqrt{300}$$

$$= 6\sqrt{100 \cdot 3}$$

$$= 6\sqrt{(10)^2 \cdot 3} = 60\sqrt{3}$$

$60\sqrt{3}$

7. Simplify $(2-3\sqrt{3})(4+3\sqrt{3})$

$$8+6\sqrt{3}-12\sqrt{3}-9\sqrt{9}$$

$$= 8+6\sqrt{3}-9(3)$$

$$= 8+6\sqrt{3}-27 = -19+6\sqrt{3}$$

$-19+6\sqrt{3}$

8. Simplify $(6x^5y^{-2})^3$

$$= 216x^{15}y^{-6}$$

$216x^{15}y^{-6}$