

Name _____

Alg2a Q3 Quiz 2

PRACTICE

January 27, 2020

Multiplication w/ Radicals

1) $(-7\sqrt{10})(11\sqrt{30})$

$$-77\sqrt{300}$$

$$-77\sqrt{100 \cdot 3}$$

$$-77 \cdot 10\sqrt{3}$$

$$\boxed{-770\sqrt{3}}$$

2) $(-4\sqrt{8})(-12\sqrt{24})$

$$48\sqrt{192}$$

$$48\sqrt{64 \cdot 3}$$

$$48 \cdot 8\sqrt{3}$$

$$\boxed{384\sqrt{3}}$$

3) $8\sqrt{6}(4\sqrt{18} - 8\sqrt{24})$

$$32\sqrt{108} - 64\sqrt{144}$$

$$32\sqrt{36 \cdot 3} - 64 \cdot 12$$

$$32 \cdot 6\sqrt{3} - 768$$

$$\boxed{192\sqrt{3} - 768}$$

4) $-5\sqrt{3}(8\sqrt{72} - 9\sqrt{96})$

$$-40\sqrt{216} + 45\sqrt{288}$$

$$-40\sqrt{36 \cdot 6} + 45\sqrt{144 \cdot 2}$$

$$-40 \cdot 6\sqrt{6} + 45 \cdot 12\sqrt{2}$$

$$\boxed{-240\sqrt{6} + 540\sqrt{2}}$$

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Answer Key

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Multiplication w/ Radicals

5) $(11 + 2\sqrt{5})(7 - 4\sqrt{5})$

~~77 - 44\sqrt{5} + 14\sqrt{5} - 8\sqrt{25}~~

$$77 - 44\sqrt{5} + 14\sqrt{5} - 8\sqrt{25}$$

$$77 - 45\sqrt{5} + 14\sqrt{5} - 8 \cdot 5$$

$$77 - 45\sqrt{5} + 14\sqrt{5} - 40$$

$$\boxed{37 - 31\sqrt{5}}$$

6) $(8 - 7\sqrt{2})(9 - 10\sqrt{6})$

$$72 - 80\sqrt{6} - 63\sqrt{2} + 70\sqrt{12}$$

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

$$+ 70 \cdot 2\sqrt{3}$$

$$\boxed{72 - 80\sqrt{6} - 63\sqrt{2} + 140\sqrt{2}}$$

7) $(12 - 4\sqrt{7})(3 + 8\sqrt{2})$

$$\boxed{36 + 96\sqrt{2} - 12\sqrt{7} - 32\sqrt{14}}$$

8) $(11 + 4\sqrt{11})(-8 - 5\sqrt{11})$

$$-88 - 55\sqrt{11} - 32\sqrt{11} - 20\sqrt{121}$$

$$-88 - 55\sqrt{11} - 32\sqrt{11} - 20 \cdot 11$$

$$-88 - 55\sqrt{11} - 32\sqrt{11} - 220$$

$$\boxed{-308 - 87\sqrt{11}}$$