Math 1   Name_____

PRACTICE Quiz 5.4 Operations with Radical Expressions

Simplify.

1) $3\sqrt{3} + 3\sqrt{3}$

2) $2\sqrt{3} - 2\sqrt{27} + 3\sqrt{12}$

3) $-\sqrt{12} + 2\sqrt{12} + 2\sqrt{24} - \sqrt{8}$

4) $\sqrt{15a}\left(\sqrt{6} + 4\right)$

5) $\sqrt{15v}\left(4v + \sqrt{5}\right)$

6) $\sqrt{15}\left(\sqrt{2} + \sqrt{10}\right)$

7) $\left(-1 - 2\sqrt{5n}\right)\left(-3 + \sqrt{5}\right)$

8) $\left(-4\sqrt{3} - 3\sqrt{2}\right)\left(4\sqrt{3} + \sqrt{2n}\right)$

Find the conjugate of the denominator.

9) $\dfrac{2}{2x - 5\sqrt{2x^4}}$

10) $\dfrac{4p^2 - 3\sqrt{3p}}{\sqrt{p^2} - 4p^2}$

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PRACTICE Quiz 5.4 Operations with Radical Expressions

Simplify.

1) $3\sqrt{3} + 3\sqrt{3}$

$6\sqrt{3}$

2) $2\sqrt{3} - 2\sqrt{27} + 3\sqrt{12}$

$2\sqrt{3}$

3) $-\sqrt{12} + 2\sqrt{12} + 2\sqrt{24} - \sqrt{8}$

$2\sqrt{3} + 4\sqrt{6} - 2\sqrt{2}$

4) $\sqrt{15a}(\sqrt{6} + 4)$

$3\sqrt{10a} + 4\sqrt{15a}$

5) $\sqrt{15v}(4v + \sqrt{5})$

$4v\sqrt{15v} + 5\sqrt{3v}$

6) $\sqrt{15}(\sqrt{2} + \sqrt{10})$

$\sqrt{30} + 5\sqrt{6}$

7) $(-1 - 2\sqrt{5n})(-3 + \sqrt{5})$

$3 - \sqrt{5} + 6\sqrt{5n} - 10\sqrt{n}$

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

$-48 - 4\sqrt{6n} - 12\sqrt{6} - 6\sqrt{n}$

Find the conjugate of the denominator.

9) $\dfrac{2}{2x - 5\sqrt{2x^4}}$

$2x + 5\sqrt{2x^4}$

10) $\dfrac{4p^2 - 3\sqrt{3p}}{\sqrt{p^2} - 4p^2}$

$\sqrt{p^2} + 4p^2$