Name : _____ Score : _____

Teacher : _____ Date : _____

Multiplying Radical Expressions

Simplify the Radical Expressions.

1) $-7\sqrt{28}\left(-7\sqrt{176}+\sqrt{27}\right)$

2) $-\sqrt{32}\cdot-\sqrt{45}$

3) $\left(2\sqrt{5d^2}-6\sqrt{2}\right)\left(-7\sqrt{5d^2}+4\sqrt{2}\right)$

4) $\sqrt{27}\left(-\sqrt{32}+\sqrt{44}\right)$

5) $-\sqrt{80h}\cdot-\sqrt{44h}$

6) $\left(-\sqrt{11}+\sqrt{3}\right)\left(\sqrt{11}+\sqrt{3}\right)$

7) $\sqrt{32n}\left(-3\sqrt{63n^2}+6\sqrt{12n^3}\right)$

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

9) $-\sqrt{20q}\left(\sqrt{27q^2}+\sqrt{32q^3}\right)$

10) $\left(-\sqrt{3r^2}-\sqrt{7}\right)\left(\sqrt{3r^2}+\sqrt{7}\right)$

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Multiplying Radical Expressions

Simplify the Radical Expressions.

1) $-7\sqrt{28}\left(-7\sqrt{176}+\sqrt{27}\right)$

$392\sqrt{77}-42\sqrt{21}$

2) $-\sqrt{32}\cdot-\sqrt{45}$

$12\sqrt{10}$

3) $\left(2\sqrt{5d^2}-6\sqrt{2}\right)\left(-7\sqrt{5d^2}+4\sqrt{2}\right)$

$-70d^2+50d\sqrt{10}-48$

4) $\sqrt{27}\left(-\sqrt{32}+\sqrt{44}\right)$

$-12\sqrt{6}+6\sqrt{33}$

5) $-\sqrt{80h}\cdot-\sqrt{44h}$

$8h\sqrt{55}$

6) $\left(-\sqrt{11}+\sqrt{3}\right)\left(\sqrt{11}+\sqrt{3}\right)$

-8

7) $\sqrt{32n}\left(-3\sqrt{63n^2}+6\sqrt{12n^3}\right)$

$-36n\sqrt{14n}+48n^2\sqrt{6}$

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

$-91-42\sqrt{6}$

9) $-\sqrt{20q}\left(\sqrt{27q^2}+\sqrt{32q^3}\right)$

$-6q\sqrt{15q}-8q^2\sqrt{10}$

10) $\left(-\sqrt{3r^2}-\sqrt{7}\right)\left(\sqrt{3r^2}+\sqrt{7}\right)$

$-3r^2-2r\sqrt{21}-7$