Name: _____                                    Date: _____

| **Learning Goal 5.3** | Apply order of operations to radical expressions. |
|---|---|

**Recall** Multiplying polynomials

$$(5x)(8x^2) \qquad\qquad 7y(6-9y) \qquad\qquad (z-3)(z+3)$$

**Example** Multiply.  Simplify the products where possible.  State any restrictions on the variable, if any.

a.  $(2\sqrt{7})(4\sqrt{75})$

b.  $7\sqrt{3}(5\sqrt{5}-6\sqrt{3})$

c.  $(8\sqrt{2}-5)(9\sqrt{5}+6\sqrt{10})$

d.  $9\sqrt[3]{2w}(\sqrt[3]{4w}+7\sqrt[3]{28})$

Assignment                          p. 289 # 1 – 12, 14, 16, 17, 23, 26                          Quiz Next Day!

**Example** Divide.  Simplify the products where possible.  State any restrictions on the variable, if any.

a.          $\dfrac{24\sqrt{x^2}}{\sqrt{3x}}$

b.          $\dfrac{4\sqrt{5n}}{3\sqrt{2}}$

| **Rationalize** |
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|  |

c.              $\dfrac{11}{\sqrt{5}+7}$

d.          $\dfrac{4\sqrt{11}}{y\sqrt[3]{6}}$

| **Conjugate** |
| --- |
|  |

**Example** An isosceles triangle has a base of $\sqrt{20}$ metres.  Each of the equal sides is $2\sqrt{7}$ metres long.  What is the **exact** area of the triangle?