Bell Work:

Multiply.

1) $\sqrt{15n^2} \cdot \sqrt{10n^3}$

$\sqrt{150n^5}$

$\sqrt{25}\,\sqrt{6}\,\sqrt{n^4}\,\sqrt{n}$

$5n^2\sqrt{6n}$

2) $(5+4\sqrt{3})(3+\sqrt{3})$

$15 + 5\sqrt{3} + 12\sqrt{3} + 4(3)$

$15 + 17\sqrt{3} + 12$

$27 + 17\sqrt{3}$

Divide　　cannot have a radical in the

denominator

1) $\dfrac{\sqrt{15}}{5\sqrt{20}} \cdot \dfrac{\sqrt{20}}{\sqrt{20}}$

2) $\dfrac{\sqrt{3x^2y^3}}{4\sqrt{5xy^3}} \cdot \dfrac{\sqrt{5xy^3}}{\sqrt{5xy^3}}$

$\dfrac{\sqrt{300}}{5(20)}$

$\dfrac{\sqrt{100}\cdot\sqrt{3}}{100} = \dfrac{10\sqrt{3}}{100} \div 10$

$\boxed{\dfrac{\sqrt{3}}{10}}$

$\dfrac{\sqrt{15x^3y^6}}{4(5xy^3)} =$

$\dfrac{\sqrt{15}\,\sqrt{x^2}\,\sqrt{x}\,\sqrt{y^6}}{20xy^3}$

$\dfrac{xy^3\sqrt{15x}}{20xy^3} = \dfrac{\sqrt{15x}}{20}$

2

3) $\dfrac{\left(3-3\sqrt{3a}\right)}{4\sqrt{8a}} \cdot \dfrac{\sqrt{8a}}{\sqrt{8a}}$

$\dfrac{3\sqrt{8a}-3\sqrt{24a^2}}{4(8a)}$

$\dfrac{3\overset{(2)}{\sqrt{4}}\sqrt{2}\sqrt{a}-3\overset{(2)}{\sqrt{4}}\sqrt{6}\overset{(a)}{\sqrt{a^2}}}{32a}$

$\dfrac{6\sqrt{2a}-6a\sqrt{6}}{32a} \div 2$

$\boxed{\dfrac{3\sqrt{2a}-3a\sqrt{6}}{16a}} \qquad a \neq 0$

(4) $\dfrac{4x^3-3\sqrt{3x}}{3\sqrt{3x^2}} \quad \dfrac{\sqrt{3x^2}}{\cdot\sqrt{3x^2}}$

$\dfrac{4x^3\sqrt{3x^2}-3\sqrt{9x^3}}{3(3x^2)}$

$\dfrac{4x^3\sqrt{3}\sqrt{x^2}-3\sqrt{9}\sqrt{x^2}\sqrt{x}}{9x^2}$

$\dfrac{4x^3(x)\sqrt{3}-3(3)(x)\sqrt{x}}{9x^2}$

$\dfrac{4x^4\sqrt{3}-9x\sqrt{x}}{9x^2} \div x \quad \left| \dfrac{4x^3\sqrt{3}-9\sqrt{x}}{9x} \right.$

$x \neq 0$

5) $\dfrac{5}{-3-3\sqrt{3}} \cdot \dfrac{(-3+3\sqrt{3})}{(-3+3\sqrt{3})}$

$\dfrac{-15+15\sqrt{3}}{9-9(3)}$

$\dfrac{-15+15\sqrt{3}}{9-27} = \dfrac{-15+15\sqrt{3}}{-18} \div 3$

$$\boxed{\dfrac{-5-5\sqrt{3}}{6}}$$

Conjugate

$(-3\sqrt{3})(3\sqrt{3}) = -9(3) = -27$

(6) $\dfrac{\sqrt{5}+3}{4-\sqrt{5}} \cdot \dfrac{(4+\sqrt{5})}{(4+\sqrt{5})}$

$\dfrac{4\sqrt{5}+5+12+3\sqrt{5}}{16-5}$

$$\boxed{\dfrac{17+7\sqrt{5}}{11}}$$

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

$16+4\sqrt{5}-4\sqrt{5}-5$