M20 Principles C3 – Discovery Activity Multiplying Radicals

If these are true …… and these are false.

$\left(\sqrt{3}\right)\left(\sqrt{7}\right)=\sqrt{21}$

$\left(\sqrt{3}\right)\left(\sqrt{7}\right)=\sqrt{10}$

$\left(3\sqrt{2}\right)\left(4\sqrt{5}\right)=12\sqrt{10}$

$\left(3\sqrt{2}\right)\left(4\sqrt{5}\right)=7\sqrt{10}$

$\left(\sqrt{5}\right)\left(\sqrt{5}\right)=\sqrt{25}=5$

$\left(\sqrt{5}\right)\left(\sqrt{5}\right)=\sqrt{25}=\sqrt{5}$

$\left(\sqrt{3}\right)\left(\sqrt{3}\right)=3$

$\left(\sqrt{3}\right)\left(\sqrt{3}\right)=9$

$\left(2\sqrt{2}\right)\left(\sqrt{6}\right)=2\sqrt{12}=4\sqrt{3}$

$\left(2\sqrt{2}\right)\left(\sqrt{6}\right)=2\sqrt{12}=24$

then find the answer to these:

$\left(\sqrt{2}\right)\left(\sqrt{11}\right)=$

$\left(3\sqrt{5}\right)\left(2\sqrt{2}\right)=$

$\left(\sqrt{8}\right)\left(\sqrt{8}\right)=$

$\left(5\sqrt{6}\right)\left(3\sqrt{3}\right)=$

(Hint: Think about multiplication of polynomials.)

… and now see if you can do these!

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

$\left(2\sqrt{x}\right)\left(5\sqrt{x}\right)=$

$\left(x\sqrt{2x^3}\right)\left(5\sqrt{x^4}\right)=$

$\left(4\sqrt{x}\right)\left(7\sqrt{x^3}\right)=$