Warm Up

1. $3^2 \times 3^4$ $= 3^6$ $= 729$

2. $(-2)^8 \div (-2)^3$ $= (-2)^5$ $= -32$

3. $(4^6)^2$ $= 4^{12}$ $= 16\,777\,216$

4. $(2^3 \times 2^5)^3$ $= 2^{9} \times 2^{15}$ $= 2^{24}$ $= 16\,777\,216$

$(2^8)^3$ 2^{24}

5. $64 = 2^{\square}$ 6

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$$\frac{(2^3)^4 \times (3^4)^3}{(5^2)^7 \times (7^2)^6} \times \frac{(5^2)^8 \times (7^3)^5 \times (2^4)^2}{(2^{10})^2 \times (3^3)^2 \times (7^0)^2}$$

$$= \frac{2^{12} \cdot 3^{12} \cdot 5^{16} \cdot 7^{15} \cdot 2^8}{5^{14} \cdot 7^{12} \cdot 2^{20} \cdot 3^6 \cdot 7^0}$$

$2^{12} \cdot 2^8$

$$= \frac{2^{20} \cdot 3^{12} \cdot 5^{16} \cdot 7^{15}}{2^{20} \cdot 3^6 \cdot 5^{14} \cdot 7^{12}}$$

$(2)(3)(4)$
$(4)(3)(2)$
$(3)(2)(4)$

$$= 1 \cdot 3^6 \cdot 5^2 \cdot 7^3$$

$$= 1\,(729)(25)(343)$$

$$= 6\,251\,175$$

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$2^2 \times 2^5 \div 2^4 + 5(-3)^0(-3)^2 - (2^3 \times 3^2)^2$

$2^7 \div 2^4 + 5(-3)^2 - 2^6 \times 3^4$ (3)

$2^3 + 5(9) - 64 \times 81$ (3)

$8 + 45 - 5184$ (3)

-5131 (1)

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If there are 7^{10} marbles in a box and there are 7^6 boxes, then how many marbles are there in total? Use powers rules then evaluate.

$(7^{10})(7^6) = 7^{16}$

$\doteq 3.3 \times 10^{13}$

$(10^{15})(10^{10}) = 10^{25}$

$=$

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When finished complete the review...

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