

Algebra II

4-2

Laws of Exponents

Oct 30-8:32 AM

coefficient

$$17x^3y^2$$

exponents

bases

Oct 30-8:39 AM

Laws of Exponents

1) $x^3 \cdot x^4 = \underline{x^7}$ x^7 x^{12} , can't do

2) $(x^3)^4 = \underline{x^{12}}$

3) $(3x^4y^5)^2 = \underline{9x^8y^{10}}$

4) $(x+y)^2 = \underline{x^2+y^2}$ can't do, stay as is.
can't bring over

5) $(3^3 \cdot 2^4)^2 = \underline{3^6 \cdot 2^8}$ $9 \cdot 4^8$ Never Change the base

6) $-2^2 = \underline{-4}$ $-2^2 = -(2 \cdot 2)$

7) $(-2)^2 = \underline{4}$

Oct 30-8:35 AM

Simplify. (pg 173)

1) $3z^2 \cdot 2z^3$
 $6z^5$

11) $(-3pq^4r^2)^3$
 $-27p^3q^{12}r^6$

21) $z^{n-2} \cdot z^{n+2}$
 $z^{n-2+n+2}$
 z^{2n}

27) $t(t^{n-1} + t^n + t^{n+1})$
 $t \cdot t^{n-1} + t \cdot t^n + t \cdot t^{n+1}$
 $t^{1+n-1} + t^{1+n} + t^{1+n+1}$
 $t^n + t^{n+1} + t^{n+2}$

Oct 30-8:41 AM

Simplify.

$$33) (t^m)^n (t^n)^{n-m}$$

$$t^{mn} \cdot t^{n^2 - nm}$$
$$t^{mn + n^2 - mn}$$
$$t^{n^2}$$

Solve.

$$35) 3^{5n} = 3^5 (3^{2n})^2$$

$$3^{5n} = 3^5 (3^{4n})$$

$$3^{5n} = 3^{4n+5}$$

Since both sides are base 3,
we can ignore it
(we can't cancel it out!)

$$-4n + 5n = 4n + 5 - 4n$$

$$n = 5$$

$$\{5\}$$

Oct 30-8:44 AM

Pg 173
2-38 even

Oct 30-3:10 PM