

DO NOW

Simplify:

$$3c - [4d + 2c - (8d + 5c)]$$

$$3c - [4d + 2c - 8d - 5c]$$

$$3c - 4d - 2c + 8d + 5c$$

$$6c + 4d$$

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6.2 Multiplying Monomials

Raising Powers to Powers:

"Give" the exponent to every piece inside the parentheses.

Examples:

$$1. (4x^5)^2$$

$$(4)^2(x^5)^2$$

$$16x^{10}$$

$$2. (3a^2xy^3)^2$$

$$(3)^2(a^2)^2(x)^2(y^3)^2$$

$$9a^4x^2y^6$$

$$3. (-3m^4)^3$$

$$(-3)^3(m^4)^3$$

$$-27m^{12}$$

$$4. (0.4q^4r)^2$$

$$(0.4)^2(q^4)^2(r)^2$$

$$.16q^8r^2$$

$$5. (-2m^3n^2)^5$$

$$(-2)^5(m^3)^5(n^2)^5$$

$$-32m^{15}n^{10}$$

$$6. (\frac{2}{3}a^2b^3)^2$$

$$(\frac{2}{3})^2(a^2)^2(b^3)^2$$

$$\frac{4}{9}a^4b^6$$

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** Multiply coefficients

Add exponents on like bases

$$7. (-4x^3)(5x^2)$$

$$(-4 \cdot 5)(x^3 \cdot x^2)$$

$$-20x^5$$

$$8. (7y^2z^4)(2y^7z^3)$$

$$(7 \cdot 2)(y^2 \cdot y^7)(z^4 \cdot z^3)$$

$$14y^9z^7$$

$$9. (3a^3b)(-4a^2b^3)$$

$$-12a^5b^4$$

$$10. (x^{2n}y^n)(5x^{3n}y^n)$$

$$5x^{2n+3n}y^{n+n}$$

$$5x^{5n}y^{2n}$$

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Recall: PEMDAS

$$11. (3g^2h^4)^3(2g^5h^3)$$

$$(27g^6h^{12})(2g^5h^3)$$

$$54g^{11}h^{15}$$

$$12. (-5x^3yz^2)(-2x^7y^5z^2)^2$$

$$(-5x^3yz^2)(4x^{14}y^{10}z^4)$$

$$-20x^{17}y^{11}z^6$$

$$13. (-6a^2)(a^3b^2)^4(5a^5b)$$

$$(-6a^2)(a^{12}b^8)(5a^5b)$$

$$-30a^{19}b^9$$

$$14. (\frac{1}{2}m^2n^3)^3(-\frac{2}{3}m^4n^5)^2$$

$$(\frac{1}{8}m^6n^9)(\frac{4}{9}m^8n^{10})$$

$$(\frac{1}{8} \cdot \frac{4}{9})m^{14}n^{19}$$

$$\frac{1}{18}m^{14}n^{19}$$

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$$15. (-2a)(-3ab)^3 + (3a)^2(ab)^2(-5b)$$

$$(-2a)(-27a^3b^3) + (9a^2)(a^2b^2)(-5b)$$

$$54a^4b^3 - 45a^4b^3$$

$$9a^4b^3$$

P
E ← 1st
M } ← 2nd
D }
A } ← 3rd
S }

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HOMEWORK

Worksheet - HW 6.2 Multiplying Monomials

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