Warm Up

Simplify: $18x^9y^5$

$2x^3y^5 \cdot (3x^3)^2$ $\quad 6+3=9$

3^2

$9 \times 2 = 18$

When in doubt, expand it out!

$2x^3y^5 \cdot (3x^3)^2$

$2x^3y^5 \cdot 3^2 \cdot x^3 \cdot x^3$

$18x^9y^5$

Homework Questions?

Exercises

Simplify.

1. $(y^5)^2$ $= y^5 \cdot y^5$ y^{10}

2. $(n^7)^4$ n^{28}

3. $(x^2)^5(x^3)$ x^{13}

4. $-3(ab^4)^3$ $-3a^3b^{12}$

5. $(-3ab^4)^3$ $-27a^3b^{12}$

6. $(4x^2b)^3$ $64x^6b^3$

7. $(4a^2)^2(b^3)$ $16a^4b^3$

8. $(4x)^2(b^3)$ $16x^2b^3$

9. $(x^2y^4)^5$ $x^{10}y^{20}$

10. $(2a^3b^2)(b^3)^2$ $2a^3b^8$

11. $(-4xy)^3(-2x^2)^3$ $512x^9y^3$

12. $(-3j^2k^3)^2(2j^2k)^3$ $72j^{10}k^9$

13. $(25a^2b)^3\left(\frac{1}{5}abc\right)^2$ $625a^8b^5c^2$

14. $(2xy)^2(-3x^2)(4y^4)$ $-48x^4y^6$

15. $(2x^3y^2z^2)^3(x^2z)^4$ $8x^{17}y^6z^{10}$

16. $(-2n^6y^5)(-6n^3y^2)(ny)^3$ $12n^{12}y^{10}$

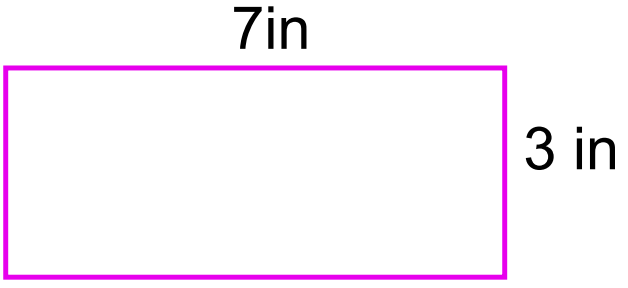
17. $(-3a^3n^4)(-3a^3n)^4$ $-243a^{15}n^8$

18. $-3(2x)^4(4x^5y)^2$ $-768x^{14}y^2$

$\left(\frac{1}{5}\right)^2 = \frac{1}{5} \cdot \frac{1}{5} = \frac{1}{25}$

Using the MCAS Reference Sheet

To find area of rectangle:



Write the formula you will use: $A = b \cdot h$

also $A = l \cdot w$

$A = b \cdot h$

$A = 7 \cdot 3$ - substitute in values you know

$A = 21$ - multiply

21 in^2 - write answer with units

multiplying 2 dimensions

Check In

Classwork

8-1 Practice

Multiplying Monomials

WHEN IN DOUBT, EXPAND IT OUT!

Simplify.

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

4. $(2ab^2c^2)(4a^3b^2c^2)$

5. $(3cd^4)(-2c^2)$

6. $(4g^3h)(-2g^5)$

7. $(-15xy^4)\left(-\frac{1}{3}xy^3\right)$

8. $(-xy)^3(xz)$

$(-1\cdot x\cdot y)^3(xz)$

$-1x^3y^3(xz) = -x^4y^3z$

9. $(-18m^2n)^2\left(-\frac{1}{6}mn^2\right)$

10. $(0.2a^2b^3)^2$

$-\cancel{18}\cdot -18\cdot m^2\cdot m^2\cdot n\cdot n\cdot -\frac{1}{\cancel{6}}\cdot m\cdot n^2$

$3\cdot -18\,m^5n^4 = -54m^5n^4$

11. $\left(\frac{2}{3}p\right)^2$

12. $\left(\frac{1}{4}cd^3\right)^2$

$\frac{2}{3}\cdot\frac{2}{3}\cdot p\cdot p = \frac{4}{9}p^2$

13. $(0.4k^3)^3$

14. $[(4^2)^2]^2$

$\left[(4^2)^2\right]^2$

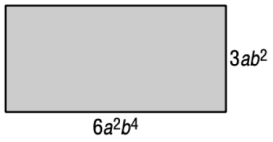
$(4^4)^2$

4^8

Using the MCAS Reference Sheet, find the areas and volumes of the following figures. **Always write the formula you will be using first before substituting in values.** Use 3.14 for the value of π.

GEOMETRY Express the area of each figure as a monomial.

15.



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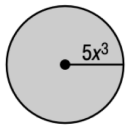

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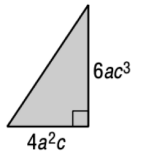


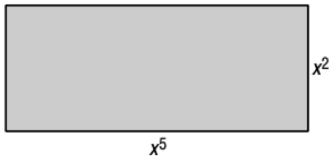
$A = \frac{1}{2} b \cdot h$

$= \frac{1}{2}(4a^2c)(6ac^3)$

$= 12a^3c^4$ units^2

GEOMETRY Express the area of each figure as a monomial.

25.



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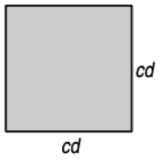

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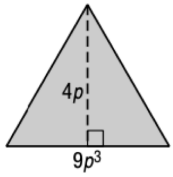
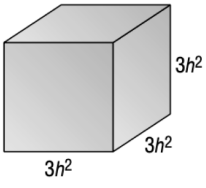


GEOMETRY Express the volume of each solid as a monomial.

18.



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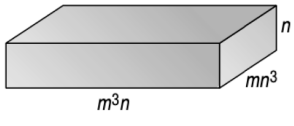

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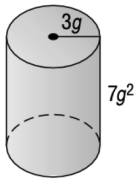

Homework

Finish classwork