

I can write math phrases using exponents.

Write using exponents:

[HINT: if it starts in parenthesis, it needs to END in parenthesis!]

A. $(-h)(-h)(-h)(-h)(-h)$

B. $(y - 6)(y - 6)(y - 6)(y - 6)$

C. $5 \cdot m \cdot m \cdot m \cdot p \cdot p \cdot p$

Write in expanded form:

[HINT: Same as above, pay attention to the parenthesis!]

D. $6(w - 7)^2$

E. 4^3g^5

F. $(-9h)^3$

I can use the order of operations to find answers to math problems.

P

E

M D

A S

USE IT!

Evaluate each expression. Show all work! Use a calculator if you need to.

A. $106 - (8 + 1)^2 + 5$

B. $5^2 + 7 \cdot 6 + 2(12 - 9)$

C. $\frac{14 + 8 \div 4}{(5 - 3)^3}$

D. Ms. Epps is at Petco again. She is buying doggie food for Oscar and some chew toys. She buys 3 bags of dog food for \$8 each and two chew toys for \$1.50 each. **Write** and **evaluate** an expression for her total at Petco.

I can explain the difference between commutative and associative properties.

Reference your notes or the textbook in section 1.3, page 18. YOU NEED TO KNOW FOR THE TEST!

Decide if each expression shows commutative property with +, commutative property with X, associative property with +, or associative property with X

A. $6 + (2 + h) = (6 + 2) + h$

D. $11 + (r + 2) = (11 + r) + 2$

B. $7 + y = y + h$

E. $6(2 \cdot h) = (6 \cdot 2)h$

I can simplify expressions.

Example First: Whenever you see numbers in an expression, you can combine them just like normal

Ex: $6 + (5 + h)$ \leftarrow I don't know what h is, but that doesn't matter, I still know what $6 + 5$ is!



$11 + h$ \leftarrow I can not combine anything else, so this is my answer

One More: Notice how this one is different, we are not adding, but multiplying

Ex: $14(2m)$ \leftarrow I don't know what m is, but that doesn't matter, I can still multiply 14 and 2



$28 \cdot m$ \leftarrow I can not combine anything else, so this is my answer

Simplify each expression:

A. $3(g \cdot 10)$

B. $(w + 2) + 7$

C. $18 + (9 + k)$

D. $6(5 \cdot y)$

I can calculate and estimate the square root of a number.

Example First: Estimate the root to the nearest whole number (do NOT use a calculator)

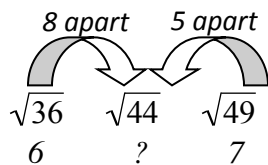
$$\sqrt{44}$$

Find the two perfect squares around 44:

$$6 \cdot 6 = 36 \quad \text{and} \quad 7 \cdot 7 = 49$$

$$\text{So} \quad \begin{array}{ccc} \sqrt{36} & \sqrt{44} & \sqrt{49} \\ 6 & ? & 7 \end{array}$$

It must be between 6 and 7. Which is it closer to?



The root is closer to 7. We estimate it to be about **7**.

**** Estimate the following roots (do NOT use a calculator):

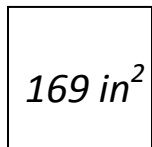
A. $\sqrt{5}$

B. $\sqrt{46}$

I can estimate the square root of a number in word problems.

Example First: Ms. Epps has a doggie bed for her son Oscar. It is a perfect square with an area of 169 in^2 . What is the length of one side of the doggie bed?

First, let's draw this out:



Something X Something = 169

Well...

$$10 \cdot 10 = 100$$

$$11 \cdot 11 = 121$$

$$12 \cdot 12 = 144$$

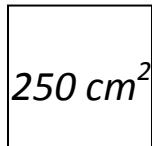
Since $13 \cdot 13 = 169$, we know

that one side of the bed is **13 in**

$$13 \cdot 13 = 169$$

One more: Ms. Pint is building a square jewelry box. She wants it to have an area of 250 cm^2 . How long should she make each side? *Round your answer to the nearest tenth.*

First, let's draw this out:



Something X Something = 250

Well...

$$15 \cdot 15 = 225$$

$$16 \cdot 16 = 256$$

Hmm, 250 isn't a perfect square

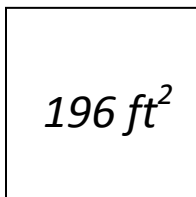
Since 250 isn't a perfect square, but it is in between 15 and 16, we can use a calculator to find the square root of 250:

$$\sqrt{250} \approx 15.811...$$

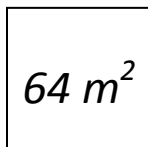
Rounding gives: **15.8 cm**

Find the length of one side of the squares below. *Round to the nearest tenth if necessary.*

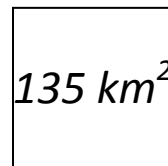
A.



B.



C.



I can translate between words, numbers, and symbols.

Important words to remember:

Sum +

Product: \cdot or \times

Difference: $-$

Quotient: \div

Write the verbal expression as a numerical expression: **[HINT: using numbers and symbols]**

- A. The product of eight and four plus twelve
- B. Four less than twenty

Write the verbal expression as an algebraic expression: **[HINT: numbers, symbols and VARIABLES!]**

- C. Total cost of six ice cream cones if they are n dollars each
- D. Ms. Pint buys some math textbooks and then nine more
- E. The sum of 32 and