

SUPERSTARS III

Pluto, IV

Name: _____

(This shows my own thinking.)

- ★1. Move one of the three popsicle sticks to make a true equation. Use arrows to show which one you move and how you move it.



- ★★★★2. You can make up for being late to Mr. Reeves' class if you are well prepared upon arriving. His formula for how many minutes of detention you must serve is $m = 30 - 5x$. This formula allows 5 minutes off the 30-minute punishment for each question you answer correctly in class.

- What does x stand for in the formula? _____
- What does m stand for in the formula? _____
- If you are tardy but answer 2 questions correctly in class, how long is your detention? _____ minutes
- If you are tardy, how many questions must you answer in class so that you have no detention to serve? _____ questions

- ★★★★3. Farmer Henson needs to fence it in a small area to make a horse pen. The pen needs to be about 900 ft^2 in area for the horse to be comfortable for a short time. To the nearest foot, how much fencing will he need if the pen is circular in shape? Use 3.14 for π .



Answer: _____ feet of fencing

- ★★★★4. A diver is working 10 feet below the surface of the water. The gap between the water and the deck of his support barge is $\frac{1}{8}$ of the total length of air hose, and $\frac{2}{3}$ of the total length remains on the reel. What is his maximum working depth without a change of equipment?

Answer: _____ feet

- ★5. There are twelve \$0.29 stamps in a dozen stamps. How many \$0.32 stamps are in a dozen?

Answer: _____ stamps



- ★ 6. At a pharmacy, Mrs. Dull paid \$2.35 for a toothbrush, \$ 1.30 for a comb and \$4.99 for shampoo. The sales tax is 6%. Find the change she should receive from a ten-dollar bill.

Answer: _____

- ★★★7. Georgia solved a problem in her math homework that gave her an answer of $0.\overline{425}$ but the problem asks for the answer to be a common fraction. What would that fraction be?

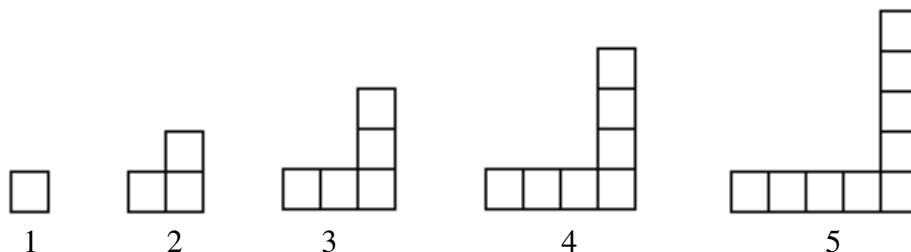
Answer: _____

- ★★ 8. How much larger is 3^4 than 4^3 ?

Answer: _____

- ★★★★9. Study the relationship between the figure number, its *area*, and its *perimeter*. Then answer the questions below the figures.

Figure Number	1	2	3	4	5	6 ... 33
area	1	3	5	7	9	11 ... 65
perimeter	4	8	12	16	20	24 ... 132



- a. What is the area for figure 100? _____ What is its perimeter? _____
- b. What is an algebraic expression for the area of figure number n ? _____
- c. What is an algebraic expression for the perimeter of figure number n ? _____