FACEing MATH® Name: _____

Lesson # 1: Understanding Base Ten Patterns – Place Value and Exponents

1. The area of the new school will be about 45,738 square feet. What is the value of the underlined digit?

4

head

40,000

head

2. The Missouri River is about 2,341miles long. Which shows that in expanded notation?

2,000+300+40+1

glasses

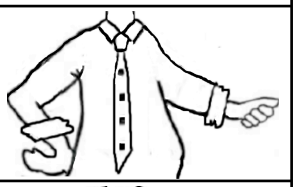
2,000+3+4+1

glasses

3. Mt. McKinley, the highest peak in the United States, is ten thousand feet higher than 10,320 feet. How tall is it?

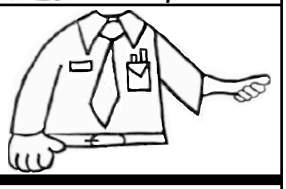
11,320ft.

upper torso



20,320ft.

upper torso

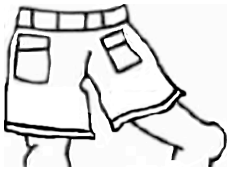


4. **Six hundred forty-five thousand, one hundred seventy-eight**

How is that written in standard form?

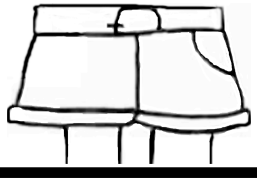
600,450,178

legs/ shorts



645,178

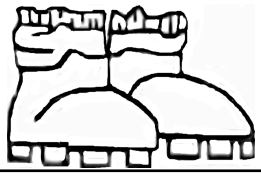
legs/ shorts



5. Which is the larger 6-digit number that has a seven in the tens place and a 5 in the ten-thousands place?

656,676

footwear



659,979

footwear

6. How does the value of the 8 in the oval compare to the value of the 8 in the rectangle?

8,357 **2,813**

8 in the oval is 10 times the value of the other 8.

outline states that start with an **O**.

The 8 in the oval is one tenth the value of 8 in the rectangle.

outline states that start with an **N**.

7. How does the value of the **2** in the oval compare to the value of the **2** in the rectangle?

6,324 **2,950**

2 in the oval is 100 times the value of the 2 in the rectangle.

1st box Draw two spiders.

The 2 in the oval is 100 times less than the value of the 2 in the rectangle.

1st box Draw a rocket blasting off.

8. How does the value of the **7** in the oval compare to the value of the **7** in the rectangle?

71, 213 **87,005**

The 7 in the oval is one tenth the value of the 7 in the rectangle.

2nd box Draw two scoops of ice cream on a cone.

7 in the oval is 10 times the value of the 7 in the rectangle.

2nd box Draw an ear of corn. (corn on the cob)

9. How does the value of the **5** in the oval compare to the value of the **5** in the rectangle?

528 **41.5**

5 in the oval is 1000 times the value of the 5 in the rectangle.

pointer to state whose capital city is Columbus.

The 5 in the oval is one hundredth the value of the 5 in the rectangle.

pointer to state whose capital city is Oklahoma City.

Lesson 1

10. To <u>multiply</u> a decimal by a power of 10, move the decimal point to the *right* by the number of zeroes of the power of 10. Since **1,000** is 1 followed by **3** zeroes, move the decimal point **3** places to the right and solve **0.416 x 1,000**.	11. Since **10,000** is 1 followed by **4** zeroes, move the decimal point **4** places to the right to multiply and solve this: **. 951 x 10,000 = ?**	12. Solve. **1,000 x 72.09**
0.416 x 1,000 = 416 hair/ eyebrows Color: brown	**95,100** glasses Color: blue	**72,090** tie/ shorts Color: purple
0.416 x 1,000 = 04.160 hair/ eyebrows Color: red	**9,510** glasses Color: red	**7,209** tie/ shorts Color: gray
13. To <u>divide</u> a decimal by a power of 10, move the decimal point to the *left* by the number of zeroes of the power of 10. Since **100** is 1 followed by **2** zeroes, move the decimal point **2** places to the *left* to divide. **88.4 ÷ 100**.	14. Since **1,000** is 1 followed by **3** zeroes, move the decimal point **3** places to the *left* to divide by 1000. Solve. **20.53 ÷ 1000 = ?**	15. Solve. **5,280 ÷ 100 = ?**
88.4 ÷ 100 = 08.840 shirt Color: orange	**0.02053** belt/ eyes Color: green	**52.8** shoes/ socks Color: blue and gray
88.4 ÷ 100 = 0.884 shirt Color: yellow	**.002053** belt/ eyes Color: brown	**5.280** shoes/ socks Color: pink and red
16. 10^2 is 1 followed by two zeroes. Solve for n. $10^2 = n$ $n = ?$	17. Solve: $12 \times 10^4 = ?$ $13 \times 10^5 = ?$ $14 \times 10^6 = ?$	18. 10^4 is 1 followed by **4** zeroes. Move the decimal point **4** places to the right to multiply by 10^4. Solve: **10^4 x 1.432**
$n = 102$ outlined states Color: yellow	**124** **135** **146** 1st box Color: blue	**14,320** 2nd box Color: yellow and green
$n = 100$ outlined states Color: red	**120,000** **1,300,000** **14,000,000** 1st box Color: gray	**1,432.0** 2nd box Color: brown and red