Math 4b. Homework 20.

1. Evaluate:

   $a.\ 2^5;$ $\quad\quad$ $b.\ (-2)^5;$ $\quad\quad$ $c.\ -2^5;$ $\quad\quad$ $d.\ 3^4;$ $\quad\quad$ $e.\ (-3)^4$

   $f.\ 0.2^5;$ $\quad\quad$ $g.\ (-0.2)^5;$ $\quad\quad$ $h.\ -0.2^5;$ $\quad\quad$ $i.\ 0.05^2;$ $\quad\quad$ $k.\ (-0.1)^4;$

2. Evaluate:

   Example:

   $$2^{-2} = \frac{1}{2^2} = \frac{1}{4}; \quad\quad (-3)^{-1} = \frac{1}{(-3)^1} = -\frac{1}{3};$$

   $a.\ 2^{-2};$ $\quad\quad$ $b.\ (-2)^{-1};$ $\quad\quad$ $c.\ 10^{-1};$ $\quad\quad$ $d.\ 0.2^{-2};$ $\quad\quad$ $e.\ \left(\frac{1}{2}\right)^{-1};$

3. Simplify the expressions:

   $a.\quad 2^4 + 2^4;$ $\quad\quad\quad\quad\quad$ $b.\quad 2^4 \cdot 2^4;$

   $c.\quad 3^2 + 3^2 + 3^2;$ $\quad\quad\quad\quad$ $d.\quad 3^3 \cdot 3^3 \cdot 3^3;$

4. What will be last digit of

   $a.\ 2^{22};$ $\quad\quad$ $b.\ 3^{33};$ $\quad\quad$ $c.\ 4^{44};$ $\quad\quad$ $d.\ 5^{55};$ $\quad\quad$ $e.\ 6^{66};$ $\quad\quad$ $f.\ 7^{77};$
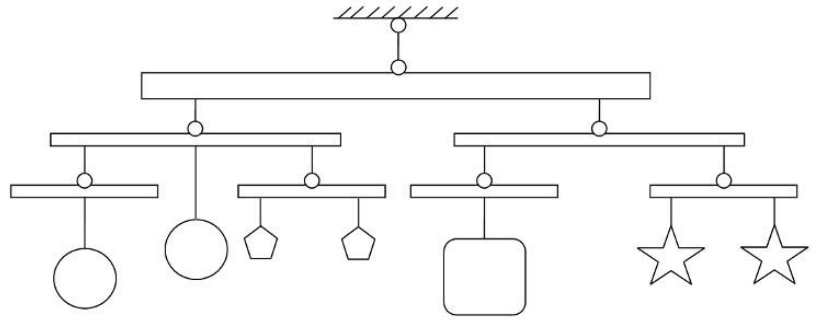
5. Compare:

   a. 127^{23} and 513^{18}

   b. 9997^{10} and 100003^8

   c. 5^{300} and 3^{500}

6. Evaluate:

   $$\left(1\frac{2}{5} + 3.5 : 1\frac{1}{4}\right) : 2\frac{2}{5}$$

   (Answer is 1.75)

7. Find the weight of each shape, if the weight of pentagon is 40.

8. Robert and his dad walked from their house to the lake. First, they walked for 30 minutes at a speed of 80 m/min, then for another 10 minutes at a speed 20 m/min slower. How far is the lake from Robert's house?

9. In John's garden, there are two types of plants. One type has only 5 leaves, while the other has 2 leaves and 1 flower. Altogether, the plants have 6 flowers and 32 leaves. How many plants are in the garden?