MATH 4: Homework 23
Due April 14, before the start of the class

Homework must be submitted on time—at least 15 minutes before the start of the class.
Homework will not be graded after the solutions are posted on Google Classroom.

Write the answers on separate sheets of paper, not between the lines.

1. Evaluate:

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

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

2. Evaluate:

   Example:

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

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

3. Simplify the expressions:

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

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

4. What will be last digit of (please look at the classwork and repeat on your own showing full work)

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

5. Compare and show your reasoning why. Use the table of powers attached on Google Classroom:
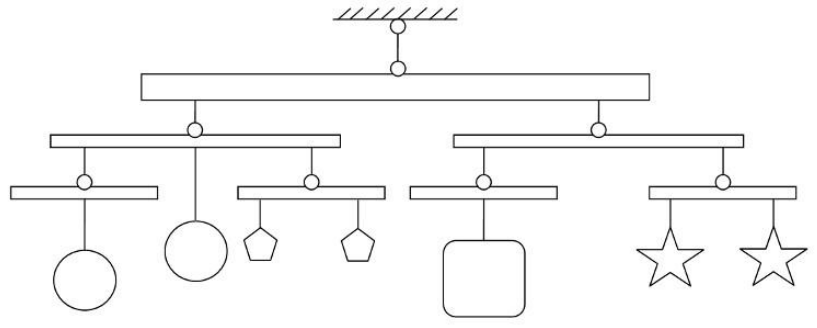
   a. 9996^{10} and 100002^8

   b. 2^{300} and 3^{200}

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 the 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 of 20 m/min slower than the first speed. 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?