MATH 4:

1. Draw the $X$ and $Y$ plane on a graph paper using a RULER (It is also called Cartesian coordinate system). Mark and then connect the following points with the RULER.

$$
\mathrm{A}(0,0) \rightarrow \mathrm{B}(6,10) \rightarrow \mathrm{C}(9,0) \rightarrow \mathrm{D}(0,6) \rightarrow \mathrm{E}(12,6) \rightarrow \mathrm{A}(0,0)
$$

2. How many multiples of 3 are there between ...
(a) $\ldots 1$ and 20 ?
(b) $\ldots 1$ and 100 ?
(c) $\ldots 1$ and 200 ?
(d) ... 100 and 200?
3. Compose an equation and solve it to answer the following question:

Lena is 5 years older than Andrew. Sum of their ages is 21 . How old is each of them? (hint: make an auxiliary drawing; make Lena or Andrew x, write expression for another one using $x$, write an equation, just like in class, solve it, write the answers: $L$ : and $\mathrm{A}:$ )
4. A cookie costs the same as two packs of chewing gum. Together, a cookie and one pack of gum cost 75 cents. How much does the cookie cost? (hint: make the cheapest item x and make an auxiliary drawing).
5. You have a number of 8 - ounce cups and 12 - ounce cups. Will you be able to measure exactly ...
(a) ... 28 ounces of water?
(b).. .32 ounces of water?
(c) ... 34 ounces of water?
6. Compute:

$$
25 \times 25 \quad 27 \times 102 \quad 11111 \times 11111 \quad 111111111 \times 111111111
$$

7. Compute:
3) $\overline{1770}$
4) $\overline{1662}$
5) $\overline{1672}$
6) $\overline{1111}$
8.     * Two players are playing the following game: they take turns moving the hour hand of the clock. Each player is allowed to move it by exactly 2 or exactly 3 hours forward.

In the beginning of the game the hand points at 12 . The player who moves the hand to 6 wins. Note that moving the hand past 6 (for example, from 5 to 7 ) it is not a win, and the game continues.

Try playing this game several times with your parents before attempting to answer the questions below. Build your game clock from a paper plate or use a toy one if you have at home.

Do you think a first player may have a winning strategy?
Do you think a second player may have a winning strategy?

Describe your strategy here (not in the notebook)

