

1. Using the distributive property simplify the expressions:

Example:

$$3(b-1) - 2(b-2) = 3b - 3 - 2b + 4 = b + 1$$

- a.  $5(a + 2) - 12$ ;                      c.  $9 + 2(c - 4)$ ;
- b.  $m - 3(2 - m) + 8$ ;                d.  $(2 + x) \cdot 3 - 5 - 2x$ ;

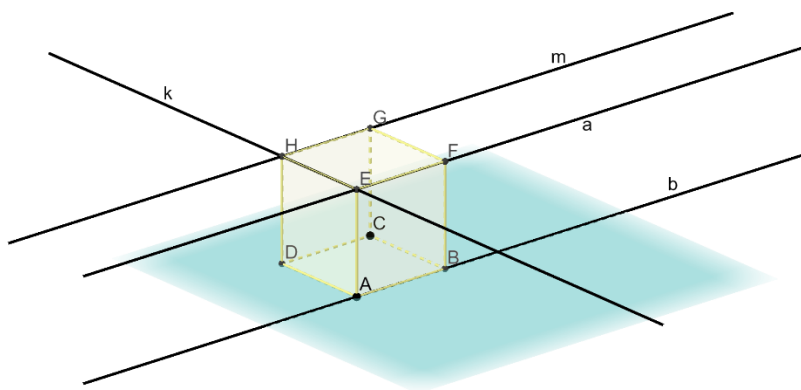
2. Using the distributive property, evaluate by the most convenient way:

Example:

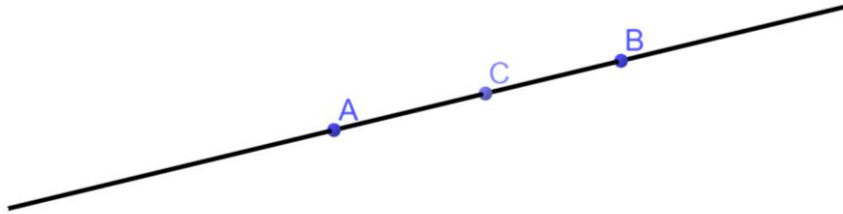
$$\frac{32 \cdot 5 + 32 \cdot 91}{160 \cdot 28} = \frac{32 \cdot (5 + 9)}{160 \cdot 28} = \frac{32 \cdot 14}{160 \cdot 28} = \frac{\cancel{32} \cdot 14}{5 \cdot \cancel{32} \cdot 14 \cdot 2} = \frac{1 \cdot 1}{5 \cdot 2} = \frac{1}{10}$$

- $$a. \frac{15 \cdot 9 - 15 \cdot 6}{9 \cdot 30}; \quad b. \frac{17 \cdot 4 + 17 \cdot 9}{34 \cdot 52}; \quad c. \frac{24 \cdot 11 - 24 \cdot 3}{300}$$

3. 25 identical thick books or 45 identical thin books can fit on a bookshelf. Will there be enough space on a bookshelf for 20 thick and 9 thin books?
4. Wooden cube painted red is cut into 27 identical smaller cubes by making two cuts parallel to each of the three pairs of cube's faces (similar to Rubik's cube).  
How many small cubes will have three faces painted?  
How many small cubes will have two faces painted?  
How many small cubes will have one face painted?  
How many small cubes will not have painted faces at all?
5. Which vertices of the cube belong to the lines a, b, m, and k?



6. By how many parts three lines can divide a plane? Draw all possible solutions.
7. By how many parts three rays can divide a plane? Draw all possible solutions.
8. There are three points A, B, and C on a line. How many rays this three points produce?



9. Draw
    - a. Two angles with a common vertex;
    - b. Two angles with a common side;
    - c. Two angles so that each side of one angle intersects one side another angle.
    - d. Two angles so that each side of one angle intersects both side of another angle.
- Use ruler!