Algebra and Geometry 1. Homework 27.

1. Two pipes fill together a pool in 1 h and 20 minutes. If the fist pipe is open for 10 minutes, and the second pipe is open for 12 minutes, the pool will be filled on $\frac{2}{15}$. How fast each pipe will fill the pool?

2. After the end of year show, the children put the chairs away.
   If they pile them up in groups of 11, there are 5 left.
   If they pile them up in groups of 18, there are 14 left.
   If they pile them up in groups of 24, there are 8 left.
   There are between 700 and 1000 chairs.
3. Solve the equations:

   $a.\ 0.8(v+1) = 0.2(v-6)$ $\qquad b.\ \frac{5a+3}{6} = \frac{8a-5}{11}$

   $c.\ (2z-3)(2z+3) - 4z(z-5) = 1$ $\qquad d.\ -|1.5z+3| = -9$
4. Find 20% of the value of the expression:

$$\frac{(8 \cdot 0.5 - 0.2) : 3\frac{4}{5}}{\left(\left(12\frac{2}{5} - 6\right) : \frac{8}{15} - \frac{1}{7}\right) \cdot \frac{1}{83}}$$

5. Solve quadratic equations:

   $a.\ -2x^2 + 6x - 4;$ $\qquad b.\ y^2 + 1 = -2.5y$
6. Evaluate:

$$\frac{(2^5)^2 \cdot 3^{10};}{6^7}$$

7. Between which integers is the number

   $a.\ \sqrt{7};$ $\qquad b.\sqrt{77};$ $\qquad c.\ \sqrt{20 \cdot 50};$ $\qquad d.\ \sqrt{17} + \sqrt{19}$