Problems marked with * are more difficult.

1. Compute ( you don't need to write the answer, just do it:

| 6-8 | $-6+8$ | $-8+(-6)$ | -24-7 | $-38+19$ |
| :---: | :---: | :---: | :---: | :---: |
| $-12+4$ | -4-2 | 21-28 | 16-(-6) | $47-54$ |
| $-3-6$ | $9+(-8)$ | $-5-(-7)$ | $-37+18$ | $-17-17$ |
| $-7+10$ | 4-7 | $-37+21$ | $-9+(-8)$ | 0-38 |
| $10+(-6)$ | $-8+2$ | 16-9 | $34-35$ | $-18+36$ |

2. Draw triangle $A B C$ with side $|A B|=4 \mathrm{~cm}$, side $|B C|=6 \mathrm{~cm}$, and side $|C A|=7 \mathrm{~cm}$.

On the side BC mark a midpoint M (use the marks on a ruler to measure the side BC , as well as to open the compass to the right angle). Draw a segment AM. AM is a median. Draw 2 other medians of the triangle ABC .
3. Draw triangle KLM with sides $|\mathrm{KL}|=5 \mathrm{~cm},|\mathrm{LM}|=8 \mathrm{~cm}$, and $|\mathrm{MK}|=10 \mathrm{~cm}$. Using ruler triangle similar to the triangle on the picture or just two rulers draw all 3 altitudes in this triangle (remember, altitude - is a segment drawn
 from the vertex of the triangle to the opposite side on the right angle).
4. *Segment BM in the triangle ABC on the picture below, is a median. Prove, that the area of the triangle AMB is equal to the area of the triangle MBC. (Area of a triangle is equal to the half of the product of the altitude and the base to which this altitude is drawn, $S_{\Delta}=\frac{1}{2} h \cdot a$, where $a$ is the base and $h$ is altitude)

$|\mathrm{AM}|=|\mathrm{MC}|=a$, because
[BM] is a medina of the triangle. $[\mathrm{BH}]$ is an altitude, passing from vertex $B$ to the base AC. The length of the segment $[\mathrm{BH}]=h$, and the segment $[\mathrm{BH}]$ is also the altitude for both triangles -ABM and MBC. Since the area of the triangle is $S_{\Delta}=\frac{1}{2} \cdot($ altitude $) \cdot($ base $)$ and for triangles

ABM and MBC altitude is the same and the bases are equal, therefore areas also will be equal, $S_{\Delta}=\frac{1}{2} \cdot a \cdot h$.
5. Find coordinates of the points on each number line below.


1) $C\left(\frac{1}{6}\right), F\left(-\frac{1}{2}\right), E\left(-1 \frac{1}{6}\right), A\left(-1 \frac{2}{3}\right), D\left(-2 \frac{1}{6}\right), B\left(-2 \frac{1}{2}\right)$
2) $E(0), F(8), A(16), B(-8), D(-12), C(-16)$
3) $B(0), C(25), D(40), F(-10), A(-25), E(-40)$
4) $D(0), C\left(-\frac{4}{5}\right), A\left(-1 \frac{3}{5}\right), B\left(\frac{4}{5}\right), E\left(1 \frac{2}{5}\right), F\left(3 \frac{1}{5}\right)$
6. Evaluate the following expressions in 2 ways: by first performing the operation in the parenthesis, and by first opening the parenthesis (follow the example:

$$
\begin{array}{ll}
34-(3-4)=34-(-1)=24+1=35 \\
34-(3-4)=34-3+4=35) \\
26-(18+(-7)), & (3-23)-(4-10), \\
& (-84-(-18-6), \\
26-(18+(-7))=26-(+11)=26-11=15 \\
26-(18+(-7))=26-18-(-7)=26-18+7=15
\end{array}
$$

$$
\begin{aligned}
& -84-(-18-6)=-84-(-24)=-84+24=-60 \\
& -84-(-18-6)=-84-(-18)-(-6)=-84+18+6=-60 \\
& (3-23)-(4-10)=(-20)-(-6)=-20+6=14 \\
& (3-23)-(4-10)=3-23-4-(-10)=-20-4+10=14 \\
& (-8+15)-(-6-20)=7-(-26)=7+26=33 \\
& (-8+15)-(-6-20)=-8+15-(-6)-(-20)=-8+15+6+20=33
\end{aligned}
$$

7. Solve the following equations:

$$
\begin{aligned}
& (x-12) \cdot 8=56 \\
& 24 \cdot(z+9)=288 \\
& (y+25): 8=16
\end{aligned}
$$

$$
\begin{array}{lll}
(x-12) \cdot 8=56 & 24 \cdot(z+9)=288 & (y+25): 8=16 \\
x-12=56: 8=7 & z+9=288: 24=12 & y+25=16 \cdot 8=128 \\
x=7+12=19 & z=12-9=3 & y=128-25=103 \\
(19-12) \cdot 8=56 & 24 \cdot(3+9)=288 & (103+25): 8=16
\end{array}
$$

