Übung für die 1. GKÜ

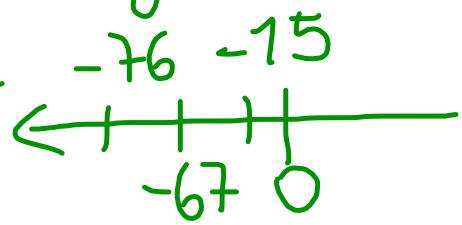
1) $<$ $>$ $=$

<... kleiner

>... größer

$+25 < +76$

$-67 > -76$



$-23 < +23$

$-14 > -15$

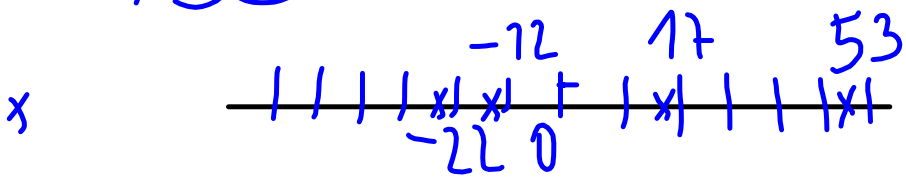
$-3-1 = -4$

-4

2) Ordne die Zahlen der Größe nach! Beginne mit der größten.

$-22, +17, +53, -91, -12$

$+53 > +17 > -12 > -22 > -91$



3) $(+6)+(-17)=+6-17=\underline{\underline{-11}}$

$(-56)-(-31)=-56+31=\underline{\underline{-25}}$

$[(-34)+(-23)]-[(-6)+(-31)]=$

$[-34-23]-[-6-31]=$

$-57-(-37)=$

$-57+37=\underline{\underline{-20}}$

$(-360):(-15)\cdot(-3)=$

$(-360)\cdot(+5)=\underline{\underline{-72}}$

$$[45+(-60)]:[(-1)+(-4)]=$$
$$[45-60]:[-1-4]=$$
$$-15 : (-5)=\underline{\underline{+3}}$$

Quadranten

−+ 2.	1. ++
3. −−	4. +−

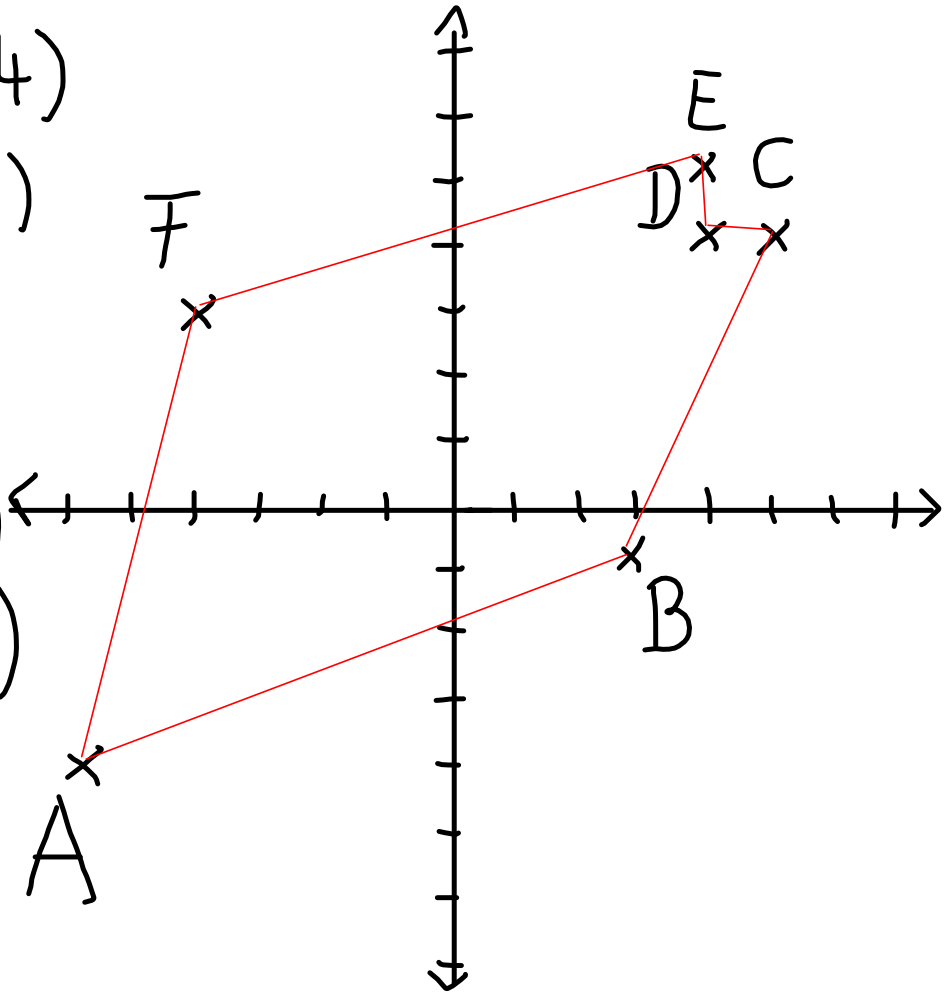
M(4|6) I. R(−8|−10) III

N(−2|−9) III. S(0|−1) IV.

P(6|−1) IV. T(−2|−1) III.

Q(−3|−2) III.

A(-6|-4)
B(3|-1)
C(5|4)
D(4|4)
E(4|5)
F(-4|3)



Quadratzahlen

$6^2 = 36$

$90^2 = 8100$

$1200^2 = 1440000$

$15^2 = 225$

$0,4^2 = 0,16$

$0,9^2 = 0,81$

$0,11^2 = 0,0121$

Zehnerpotenz

$10\,000\,000 = 10^7$

$1000\,000 = 10^6$

$500 = 5 \cdot 10^2$ nicht $5^2 = 25$

$2\,000\,000 = 2 \cdot 10^6$

$60000 = 6 \cdot 10^4$

ZEHNERPOTENZ

ZERSETZUNG

$4 \cdot 10^2 = 400$

$4{,}8 \cdot 10^5 = 480000$

$9{,}9 \cdot 10^7 = 99000000$

$9{,}04 \cdot 10^6 = 9040000$

$54600 = 5{,}46 \cdot 10^4$

$9670000 = 9{,}67 \cdot 10^6$

TERME + PROBE

$6k + 6k - 3k - 2{,}5 + 8k$

$17k - 2{,}5$

$k = -1$

A: $6 \cdot (-1) + 6 \cdot (-1) - 3 \cdot (-1) - 2{,}5 + 8 \cdot (-1)$

$-6 \quad -6 + 3 - 2{,}5 - 8 = -19{,}5$ ✓

E: $17 \cdot (-1) - 2{,}5 = -17 - 2{,}5 =$

$-19{,}5$ ✓

$6{,}5x + 3{,}5y - 2{,}5x - 3{,}5y = 4x$

Probe: $x = 2 ; y = 3$

A: $6{,}5 \cdot 2 + 3{,}5 \cdot 3 - 2{,}5 \cdot 2 - 3{,}5 \cdot 3 =$ 8

E: $4 \cdot 2 = 8$

$5x^4 - 3x^3 - 2x + 7x^2 + 5x^3$

$5x^4 + 2x^3 + 7x^2 - 2x \Leftarrow$

Probe: $x = 2$

A: $5 \cdot 2^4 - 3 \cdot 2^3 - 2 \cdot 2 + 7 \cdot 2^2 + 5 \cdot 2^3$

$5 \cdot 16 - 3 \cdot 8 - 4 + 7 \cdot 4 + 5 \cdot 8$

$80 - 24 - 4 + 28 + 40 = 120$ ✓

E: $5 \cdot 2^4 + 2 \cdot 2^3 + 7 \cdot 2^2 - 2 \cdot 2$

$5 \cdot 16 + 2 \cdot 8 + 7 \cdot 4 - 4$

$80 + 16 + 28 - 4 = 120$ ✓

$$-(2s+s^2-5s^3)+4s-4s^3$$

$$-2s-s^2+5s^3+4s-4s^3$$

$$s^3-s^2+2s$$

Probe: $s=3$

$$A: -(2\cdot 3+3^2-5\cdot 3^3)+4\cdot 3-4\cdot 3^3$$

$$-(6+9-5\cdot 27)+12-4\cdot 27$$

$$24$$

$$E: 3^3-3^2+2\cdot 3=24$$

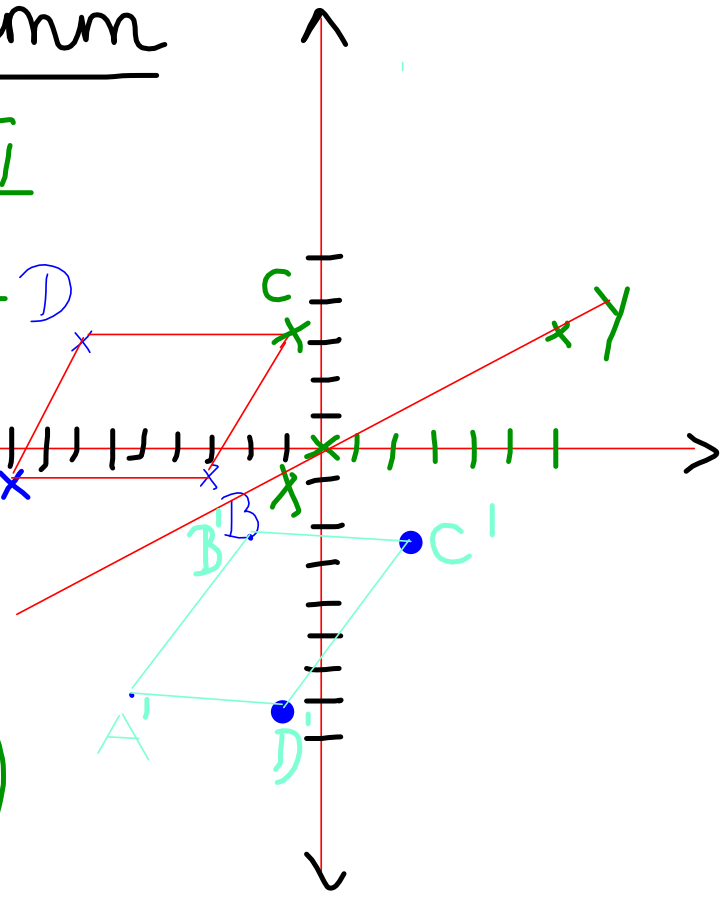
Parallelogramm

A(-9|-1) III

B(-3|-1) III

D(-7|3) II

C(-1|3) II



Spiegelgerade

X(0|0); Y(6|3)

$$(-24)-\{(+5)-[(-7)+(-16)]+(-3)\}$$

$$-24-\{+5-[-7-16]-3\}$$

$$-24-\{+5-[-23]-3\}$$

$$-24-\{+5+23-3\}$$

$$-24-\{25\}=-24-25=\underline{-49}$$