

### 5.3 Verbindung der Grundrechenarten bei ganzen Zahlen

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$$\begin{aligned} \text{a) } (-2) \cdot (-3) - 7 &= 6 \ominus 7 = \underline{\underline{-1}} && \text{Differenz} \\ (-2) \cdot [(-3) - 7] &= (-2) \odot (-10) = \underline{\underline{20}} && \text{Produkt} \\ (-2) - (3 - 7) &= (-2) \ominus (-4) = -2 + 4 = \underline{\underline{2}} && \text{Differenz} \end{aligned}$$

$$\begin{aligned} \text{b) } -20 + 12 : (-4) &= -20 \oplus (-3) = -20 - 3 = \underline{\underline{-23}} && \text{Summe} \\ (-20 + 12) : (-4) &= (-8) \odot (-4) = \underline{\underline{2}} && \text{Quotient} \\ 0 - [(20 + 12) : (-4)] &= 0 - [32 : (-4)] = 0 \ominus (-8) && \text{Differenz} \\ &= \underline{\underline{8}} \end{aligned}$$

$$\begin{aligned} \text{c) } 3 \cdot (-8) - (-12) : 4 &= -24 \ominus (-3) = -24 + 3 = \underline{\underline{-21}} && \text{Differenz} \\ 3 \cdot [-8 - (-12)] : (-4) &= 3 \cdot [-8 + 12] : (-4) = \\ 3 \cdot 4 : (-4) &= 12 \odot (-4) = \underline{\underline{-3}} && \text{Quotient} \\ 3 \cdot [-8 - (-12 : 4)] &= 3 \cdot [-8 - (-3)] = 3 \cdot [-8 + 3] \\ &= 3 \odot (-5) = \underline{\underline{-15}} && \text{Produkt} \end{aligned}$$

$$\begin{aligned} \text{g) } -37 + 38 \cdot [0 : (-2)] &= -37 \oplus 38 \cdot 0 = \underline{\underline{-37}} && \text{Summe} \\ [4000 : (-80) + 160 \cdot (-3)] : (-5) &= \\ [-50 + (-480)] : (-5) &= \\ [-50 - 480] : (-5) &= -530 \odot (-5) = \underline{\underline{106}} && \text{Quotient} \end{aligned}$$

$$\begin{aligned} \text{h) } 16 \cdot [(-36) + 360 : (-36)] &= 16 \cdot [(-36) - 10] \\ &= 16 \odot (-46) = \underline{\underline{-736}} && \text{Produkt} \end{aligned}$$

$$\begin{aligned} (-63) : 7 - (4 - 13) \cdot 9 &= -9 - (-9) \cdot 9 = \\ -9 \ominus (-81) &= -9 + 81 = \underline{\underline{72}} && \text{Differenz} \end{aligned}$$

$$\begin{array}{r} 70) \quad -2618 \\ \quad \ominus 2550 \\ \hline \quad -68 \\ \quad \quad \ominus 17 \\ \quad \quad \quad \ominus 150 \\ \hline \quad \quad -4 \\ \quad \quad \quad \ominus 20 \\ \quad \quad \quad \quad \oplus 37 \\ \quad \quad \quad \quad \quad \ominus 113 \\ \hline \quad \quad \quad \quad \quad \quad 80 \end{array}$$