

① Löse folgende Gleichungen und bestimme die Lösungsmenge. / 8

a)  $6x - 4 = -5x - 3 \Rightarrow L =$

c)  $-5x - 2 < 2x - 7 \Rightarrow L =$

b)  $6x - 6 < -3x - 4 \Rightarrow L =$

d)  $7x + 2 = -2x + 9 \Rightarrow L =$

② Albert und Bruno wollen mit Fahrrädern zum Schwimmbad fahren. Da Albert mit durchschnittlichen 28 km/h deutlich schneller unterwegs ist als Bruno, der im Schnitt 23 km/h fährt, lässt Albert ihm 9 Minuten Vorsprung.

- Stelle zu dem Sachverhalt eine Gleichung auf und berechne, wie viele Minuten Bruno gefahren ist, wenn er von Antonius eingeholt wird.
- Berechne die Strecke, die die beiden zu dem Zeitpunkt zurückgelegt haben, an dem Antonius Bruno einholt.

A full-page sheet of white graph paper with a light gray grid. The grid consists of small squares, approximately 10 units wide by 10 units high. A single horizontal line runs across the middle of the page, dividing it into two equal halves. This line is slightly thicker than the other grid lines.

③ Ein Bauherr sucht nach der Fertigstellung seines Hauses einen Stromanbieter. Die örtlichen Stadtwerke bieten dabei folgenden Tarif an: 0,39 € pro kWh. Hinzu kommt ein Grundpreis in Höhe vom 8,49 € pro Monat. Im Internet findet er einen Anbieter mit folgenden Konditionen: 0,42 € pro kWh. Hinzu kommt ein Grundpreis in Höhe vom 6,17 € pro Monat.

- Stelle einen Term auf, mit dem man die Kosten für Strom der Stadtwerke in einem Jahr berechnen kann und berechne die jährlichen Kosten für 2139 kWh.
- Stelle eine Gleichung auf, mit der man die Kosten der beiden Stromanbieter für  $x$  kWh vergleichen kann und berechne, für welche Menge Strom der Preis bei beiden gleich ist.

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Viel Erfolg!

Punkte:

/ 17

Note:

## Mathematik