

Lösungen

9a

9a/b GEE – West Germany 1961 – 89

Suggested solutions:

1) **Take notes** on tasks 1), 2) and 4) (p. 111)

Reasons for unrest:

- because parts of the younger, academically educated generation were convinced that the Bundestag lacked an effective intra-parliamentary counterforce, the actors in the movement called for an extra-parliamentary opposition, what was called the APO
- In particular, they wanted to prevent the passage of the emergency laws because they feared that these laws would constitute the return to an authoritarian state

Lifestyles of young people:

- search for freedom
- wish to distance themselves from old authoritarian elites (through looks and behaviour) – rock n' roll lifestyle, punk (rock), long hair ...
- pacifist believes

reasons for the protest of younger generation:

- almost everything in politics and society was called into question: parliaments and parties, justice and police, churches and unions, banks and corporations
- almost always it was about the rejection of authority
- the reason was a crisis of confidence that was rooted in the National Socialist past, which had never been come to terms with

2) Your opinion: Now that you know about the student protests of the 1960s and 70s write about **your generation**.

Individual answers:

- e.g. climate change, social inequality, Article 13 of the EU's copyright directive, gender justice, feminism ...

The European Car Industry Moves East

1. Describe the development of the global car production (M1, text).

The global car production has grown on a global level in the years 2010–2013 and is still expected to grow up to 2018. While the numbers of cars that China is producing is supposed to rise by 68 % from 2010 to 2018, North America is said to still experience a rise by 40 % and Western Europe by 14 %. Japan's car industry will supposedly produce less cars and thus undergo a decrease by 6 %.

The clear winner in this development will be the East European countries. While they started off producing 3.2 million units back in 2010, this number already amounted to 4.3 million in 2013 and is expected to reach 6.3 million in 2018 – a rise by 98 %.

2. Explain the changes concerning the location of the European car industry (M1, M2, text)

Due to lower labour costs and a lower corporate tax in the East European countries, companies have relocated. While a company has to pay a salary of € 31.40 per hour, these costs are down to € 9.70 in Slovakia or even € 4.60 in Romania. The same is true for taxation. As a company, one has to pay corporate tax, countries like Romania (16 %), the Czech Republic, Hungary or Poland (all 19 %) are by far more interesting than a country like Germany where the corporate tax is 29.58 %.

3. What are positive and negative consequences for the different regions? Make a list.

Traditional locations in Western Europe

- Loss of jobs
- Relocation of suppliers
- Lower tax revenues
- Lower purchasing power
(people have less money to buy products)
- Higher unemployment rate

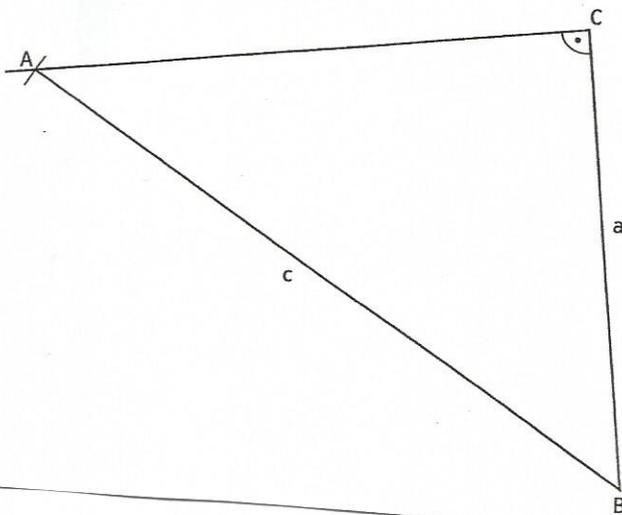
New locations in Eastern Europe

- creation of jobs in the car industry but also in the service sector (e.g. logistics / security / catering)
- settlement of suppliers
- improvements in infrastructure
- higher tax revenues
- higher purchasing power

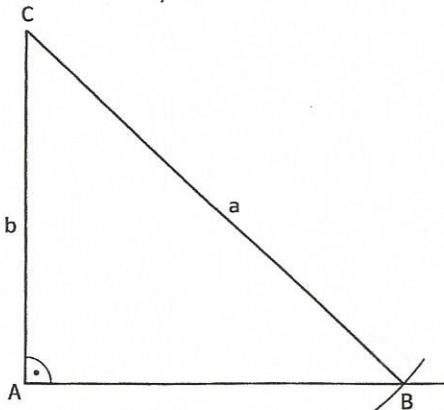
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- 3 a) $\sin(\alpha) = \frac{7,9}{10,2}$, also $\alpha \approx 50,8^\circ$;
 $\beta = 90^\circ - \alpha \approx 39,2^\circ$
 b) $\alpha = \sin^{-1}\left(\frac{6\text{m}}{7,4\text{m}}\right) \approx 54,18^\circ$, $\beta = \cos^{-1}\left(\frac{6\text{m}}{7,4\text{m}}\right) \approx 35,82^\circ$
 c) $\sin(\varepsilon) = \frac{0,69}{15,3}$, also $\varepsilon \approx 2,6^\circ$; $\delta = 90^\circ - \varepsilon \approx 87,4^\circ$
 d) zum Beispiel: $\sin(\gamma) = \frac{3,9}{4,6}$, also $\gamma \approx 58,0^\circ$;
 $\delta = 90^\circ - \gamma \approx 32,0^\circ$
 e) $\sin(\gamma) = \frac{15}{\sqrt{23^2 + 15^2}}$, also $\gamma \approx 33,1^\circ$;
 $\delta = 90^\circ - \gamma \approx 56,9^\circ$
 f) Hypotenuse $x = \sqrt{(115\text{cm})^2 + (272\text{cm})^2}$
 $\approx 295,32\text{cm}$, also $\varepsilon = \sin^{-1}\left(\frac{272\text{cm}}{295,31\text{cm}}\right) \approx 67,08^\circ$;
 $\varphi = \cos^{-1}\left(\frac{272\text{cm}}{295,31\text{cm}}\right) \approx 22,92^\circ$

- 5 a) $\sin(\alpha) = \frac{a}{c} = \frac{6,2}{9,6}$, also $\alpha \approx 40,2^\circ$
 $\beta = 90^\circ - \alpha \approx 49,8^\circ$; $b = 9,6\text{cm} \cdot \sin(\beta) \approx 7,3\text{cm}$



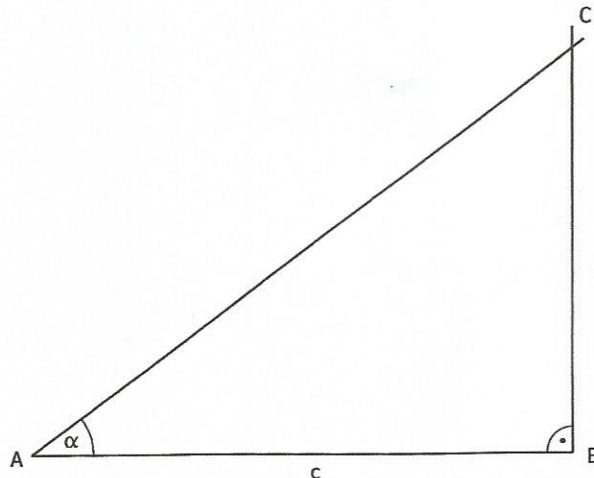
- b) $c = \sqrt{a^2 - b^2} = \sqrt{(6,9\text{cm})^2 - (4,7\text{cm})^2} \approx 5,1$
 $\sin(\beta) = \frac{b}{a} = \frac{4,7}{6,9}$, also $\beta \approx 42,9^\circ$; $\gamma = 90^\circ - \beta \approx 47,1^\circ$



c) $\gamma = 90^\circ - \alpha = 90^\circ - 37^\circ = 53^\circ$

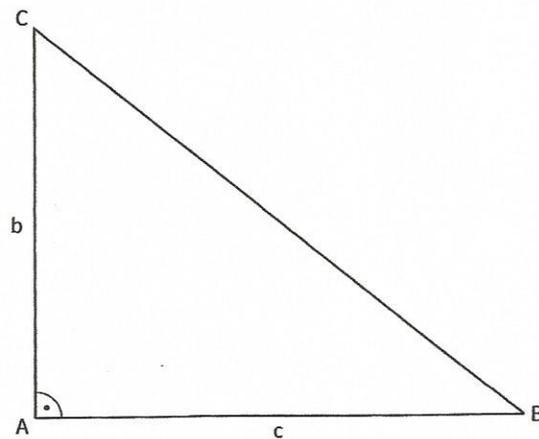
$b = \frac{c}{\cos(\alpha)} = \frac{7,2\text{cm}}{\cos(37^\circ)} \approx 9,0\text{cm}$

$a = 9,0\text{cm} \cdot \sin(37^\circ) \approx 5,42\text{cm}$



d) $a = \sqrt{(5,2\text{cm})^2 + (6,5\text{cm})^2} \approx 8,32\text{cm}$;

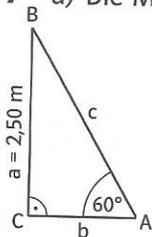
$\beta = \cos^{-1}\left(\frac{6,5\text{cm}}{8,32\text{cm}}\right) \approx 38,62^\circ$; $\gamma = 90 - \beta \approx 51,3^\circ$



- 6 a) Für die Seite a gilt: $a = 3,70\text{m} \cdot \sin(75^\circ) \approx 3,57\text{m}$. Das Ende der Leiter erreicht also das Fensterbrett in 3 m Höhe.
 b) Für die Seite b gilt: $b = 3,70\text{m} \cdot \cos(75^\circ) \approx 0,96\text{m}$. Die Entfernung des Fußendes der Leiter zur Hauswand beträgt etwa 0,96 m.
 c) Im Dreieck ABC ist $a = c \cdot \sin(\alpha) = 3,70\text{m} \cdot \sin(\alpha)$. Der Winkel α soll sich zwischen 68° und 83° bewegen. Es gilt: $3,70\text{m} \cdot \sin(68^\circ) \approx 3,43\text{m} \leq a \leq 3,70\text{m} \cdot \sin(83^\circ) \approx 3,67\text{m}$. Das Leitende bewegt sich also etwa zwischen den Höhen 3,43 m und 3,67 m.
 d) Wenn das Ende der Leiter genau 3,50 hoch reicht, beträgt der Anstellwinkel α der Leiter $\alpha = \sin^{-1}\left(\frac{3,50\text{m}}{3,70\text{m}}\right) \approx 71,08^\circ$.
 e) Eine solche Leiter müsste $c = \frac{6,50\text{m}}{\sin(80^\circ)} \approx 6,60\text{m}$ hoch sein

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7 a) Die Mindestlänge der gespannten Schnüre c



$$\text{beträgt } c = \frac{2,50 \text{ m}}{\sin(60^\circ)} \approx 2,89 \text{ m.}$$

b) Wenn die Schnüre 3 m lang sind, beträgt der Neigungswinkel

$$\alpha = \sin^{-1}\left(\frac{2,50 \text{ m}}{3,0 \text{ m}}\right) \approx 56,44^\circ.$$

Für die Entfernung b vom Schnurende zum Stangenende gilt:

$b = 3 \text{ m} \cdot \cos(56,44^\circ) \approx 1,66 \text{ m}$. Also würde ein Strand mit einer Breite von $2 \cdot 1,66 \text{ m} + 9,50 \text{ m} = 12,82 \text{ m}$ ausreichen, um das Beachvolleyballnetz aufzubauen.

8 a) Die Seile müssten in einer Höhe

$$a = 20 \text{ m} \cdot \sin(65^\circ) \approx 18,13 \text{ m} \text{ angebracht werden.}$$

b) Der Neigungswinkel der Seile beträgt

$$\alpha = \cos^{-1}\left(\frac{11,50 \text{ m}}{20,0 \text{ m}}\right) \approx 54,90^\circ.$$

$$9 \text{ Fabians Weg: } x = \frac{1240 \text{ m} - 982 \text{ m}}{\sin(16^\circ)} \approx 936,01 \text{ m.}$$

$$\text{Sandras Weg: } x = \frac{1240 \text{ m} - 996 \text{ m}}{\sin(13^\circ)} \approx 1084,68 \text{ m.}$$

Also hat Sandra den längeren Weg vor sich ($1084,68 \text{ m} - 936,01 \text{ m} = 148,67 \text{ m}$ länger).