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|  | II Reelle Zahlen, Check-out |  |  |
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Check-out Kapitel II

Schätze dich mithilfe der Checkliste ein.

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|  | Checkliste |  |  |  | Lerntipps | zum Nacharbeiten |
| 1. | Ich kann Quadratwurzeln bestimmen. | 🞎 | 🞎 | 🞎 | Beispiel 1 auf Seite 47 | Seite 61: A. 1, 2, 9 und 10  Seite 67: Runde 1 A. 1  Seite 67: Runde 2 A. 1 |
| 2. | Ich kann quadratische Gleichungen lösen. | 🞎 | 🞎 | 🞎 | Beispiel 2 auf Seite 47 | Seite 61: A. 5 und 6  Seite 62: A. 12 und 13  Seite 67: Runde 1 A. 3 |
| 3. | Ich kann Näherungswerte für Quadratwurzeln bestimmen. | 🞎 | 🞎 | 🞎 | Beispiel 1 auf Seite 50  Beispiel 2 auf Seite 51 | Seite 61: A. 4, 8 und 11  Seite 35: A. 17  Seite 67: Runde 2 A. 3 |
| 4. | Ich kann Zahlen den Zahlenbereichen zuordnen. | 🞎 | 🞎 | 🞎 | Beispiel 1 und 2 auf  Seite 54 | Seite 61: A. 3  Seite 62: A. 19  Seite 67: Runde 1 A. 2  Seite 67: Runde 2 A. 2 |
| 5. | Ich kann mithilfe der Rechenregeln für Quadratwurzeln geschickt mit Wurzeln rechnen. | 🞎 | 🞎 | 🞎 | Beispiel 1 und 2 auf  Seite 58 | Seite 61: A. 7  Seite 62: A. 14, 15 und 16  Seite 67: Runde 1 A. 4 und 5  Seite 67: Runde 2 A. 3 |

Überprüfe deine Einschätzung.



Zu 1. Quadratwurzeln bestimmen

Welche Ziffer kann man für ◼ einsetzen. Ergänze die fehlende Ziffer.

a) b) c) d)

e) f) g) h)



Zu 2. **Quadratische Gleichungen lösen**

a) Ordne jeder Gleichung eine Lösung zu. Notiere gegebenenfalls weitere Lösungen.

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b) Bestimme jeweils die Seitenlänge a des Quadrats, welches denselben Flächeninhalt hat wie die Figuren

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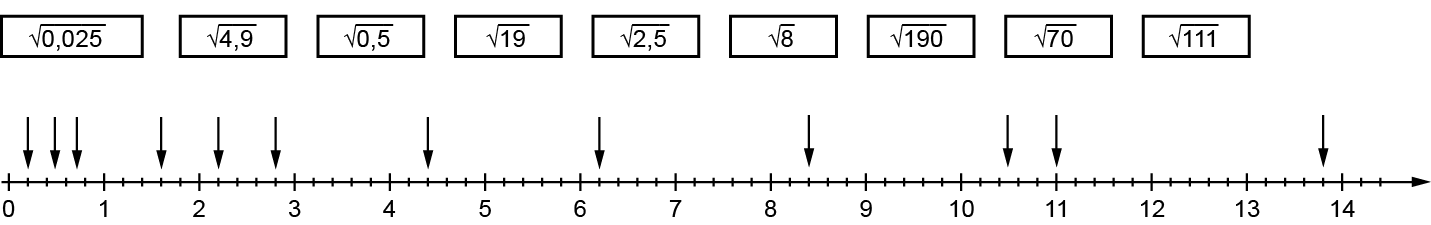
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|  | II Reelle Zahlen, Check-out |  |  |
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Zu 3. Näherungswerte für Quadratwurzeln bestimmen

a) Gib an, welcher Zahl am Zahlenstrahl die Wurzel näherungsweise entspricht, indem du passend verbindest.



b) Bestimme mithilfe einer Intervallschachtelung einen Näherungswert für auf eine Nachkommastelle genau. Verwende die folgende Tabelle.

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| --- | --- | --- | --- | --- | --- |
| 1. Schritt |  | 11 |  | 12 |  |
| 2. Schritt |  |  |  |  |  |
| 3. Schritt |  |  |  |  |  |

Platz für schriftliche Rechnungen:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Damit gilt .



Zu 4. **Zahlen Zahlenbereichen zuordnen**

a) Entscheide, ob die Zahl irrational oder rational ist. Begründe.

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|  | irrational bzw. rational | Begründung |
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| 3,375 842 |  |  |
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|  | II Reelle Zahlen, Check-out |  |  |
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b) Entscheide durch Ankreuzen, zu welchen Zahlenbereichen die Zahl gehört. Forme gegebenenfalls um.

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|  | natürlich | ganz | rational | reell |
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Zu 5. **Geschickt Rechnen mit Quadratwurzeln**

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| a) Vervollständige die Zahlenmauer.  In jedem Stein steht das Produkt der Zahlen auf den beiden Steinen darunter. |  | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | |  |  |  | |  |  |  | |  | |  |  | |  |  | |  | |  | |  | |  | |  | | 2 | |  | | |

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b) Notiere als Vielfaches von , oder und überschlage.

c) Wende das Distributivgesetz an, um den Term zu berechnen bzw. zu überschlagen.

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|  | II Reelle Zahlen, Check-out | Lösungen |  |
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Check-out Kapitel II, S 35 – 37

1 a) b) c) d)

e) f) g) h)

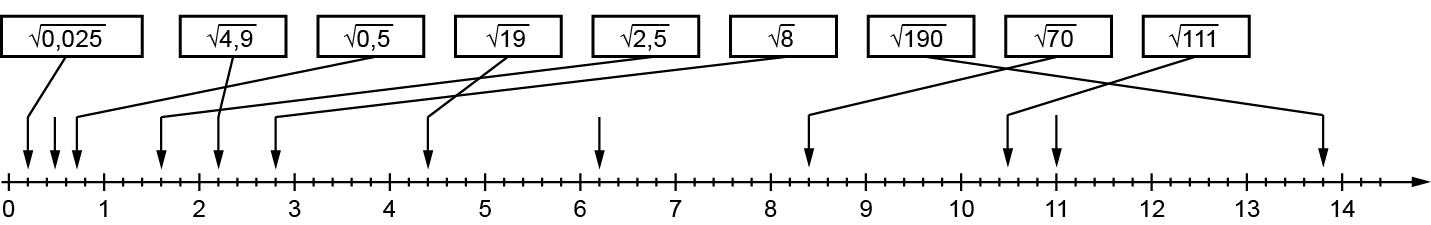
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b) Parallelogramm: Rechteck: Dreieck:

3 a)



b)

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| 1. Schritt |  | 11 |  | 12 |  |
| 2. Schritt |  | 11,6 |  | 11,7 |  |
| 3. Schritt |  | 11,61 |  | 11,62 |  |

Damit gilt .

4 a)

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| --- | --- | --- |
|  | irrational bzw. rational | Begründung |
|  | rational | Die Zahl ist als Bruch rational. |
|  | irrational | Die Zahl ist irrational, da der Radikand keine Quadratzahl ist. |
| 3,375 842 | rational | Die Zahl ist rational, da sie endlich viele Nachkommastellen hat. |
|  | rational | Die Zahl ist als Bruch rational. |
|  | rational | Die Zahl ist als periodische Dezimalzahl rational. |

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|  | natürlich | ganz | rational | reell |
|  | X | X | X | X |
|  |  |  | X | X |
|  |  | X | X | X |
|  |  |  | X | X |
|  |  |  |  | X |

5 a)

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