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| **Mathematik in Berufsvorbereitungsklassen** | **BildÜberschriften** |

Anregungen für einen Einstufungstest

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| **Lerngebiete** | Alle Lerngebiete des gültigen Lehrplans für Berufsintegrations- und Deutschklassen2.1 Mathematische Grundstrukturen und Verfahren2.2 Maßeinheiten2.3 Dreisatz-, Bruch-, Prozentrechnung2.4 Grundkenntnisse der Geometrie2.5 Formeln und Gleichungen |
| **Kompetenz(en) aus dem Lernbereich Mathematik** | Die Schülerinnen und Schüler* lösen Aufgaben mit mathematischen Grundstrukturen und Verfahren.
* rechnen mit Maßeinheiten.
* lösen Dreisatz-, Bruch-, Prozentrechnungen.
* wenden ihre Grundkenntnisse der Geometrie an.
* lösen Formeln und Gleichungen.
 |
| **Arbeitszeit** | ca. 90 Minuten |
| **Materialien** | Kugelschreiber oder Füller, Bleistift, Radiergummi, Lineal und Geodreieck |
| **Titel** | **Wie gut bin ich schon in Mathematik?** |

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| http://www.berufssprache-deutsch.bayern.de/fileadmin/user_upload/BSD/Client_Icons/g22.png**Wie gut bin ich schon in Mathematik?**  |

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| **Name** |  |
| **Arbeitszeit** | ca. 90 Minuten |
| **Materialien** | Kugelschreiber oder Füller, Bleistift, Radiergummi, Lineal und Geodreieck |

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| **Hinweise und Erklärungen** |

**Hinweise**

Zeichnungen sollen mit Bleistift gezeichnet werden.

Bei Ergebnissen von Sachaufgaben müssen die Maßeinheiten mit angegeben werden.

Ein Zusatzblatt können Sie z. B. für Nebenrechnungen verwenden.

Die Informationen auf dem Zusatzblatt werden nicht bewertet.

**Erklärungen**

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| Hier steht Ihr Rechenweg. Dieser wird bewertet.  |

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| Hier steht Ihr Ergebnis/Antwort. Dieses/Diese wird bewertet. | leere Zeile:\_\_\_\_  |

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| **Feedback** |

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| **Lerngebiet** | **maximale Punkte** | **erreichte Punkte** | **Feedback** |
| 2.1 Mathematische Grundstrukturen und Verfahren | 14 |  |  |
| 2.2 Maßeinheiten | 9 |  |  |
| 2.3 Dreisatz-, Bruch-, Prozentrechnung | 13 |  |  |
| 2.4 Grundkenntnisse der Geometrie | 14 |  |  |
| 2.5 Formeln und Gleichungen | 10 |  |  |
|  | **Σ 60** |  |  |

**Dies ist mein Tipp:**

**Das können Sie schon sehr gut:**

**Daran sollten Sie noch arbeiten:**

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| **2.1 Mathematische Grundstrukturen und Verfahren** |
| 1. | Sie haben aus Versehen mit Ihrem Füller Tintenkleckse auf Ihr Papier gebracht. Nun müssen Sie die nicht mehr lesbaren Zahlen herausfinden. 12 + = 18 Zahl: \_\_\_\_\_7 – 3 = Zahl: \_\_\_\_\_–10 + = 9 Zahl: \_\_\_\_\_ | \_\_\_\_/3 |
| 2. | Eine Gleichung mit zwei Platzhaltern kann mehrere Lösungen besitzen.Geben Sie zwei Möglichkeiten an, die die Gleichung korrekt lösen.23 + \_\_\_\_\_ + \_\_\_\_\_ = 1001. Möglichkeit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2. Möglichkeit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/4 |
| 3. | Füllen Sie die Kästchen so aus, dass bei der jeweiligen schriftlichen Berechnung eine wahre Aussage entsteht.

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| 4. | Berechnen Sie folgende Aufgaben.$5 + 7 ∙ 3 =$ \_\_\_\_\_\_\_\_\_\_$3 ∙ 5 – 2 ∙ 6 =$ \_\_\_\_\_\_\_\_\_\_$20 – 6 : 2 =$ \_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/3 |

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| **2.2 Maßeinheiten** |
| 1. | Sabine möchte sich eine Hose für 29,90 Euro kaufen. Sie bemerkt, dass die gleiche Hose in einem anderen Geschäft im Angebot für 21.- Euro ist.Wie viel Geld hat Sabine gespart?Antwort: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/1 |
| 2. | Alex kauft ein Handy für 87.- Euro. Dazu nimmt er noch ein Ladekabel und einen neuen Akku. Beide kosten zusammen 34.- Euro. Er zahlt mit einem 100-Euro- und mit einem 50-Euro-Schein.Wie viel Restgeld erhält Alex zurück?Berechnung:

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| 3. | Zoranas Schulweg ist 3600 m lang. Die ersten 2,7 km fährt sie mit dem Bus. Den Rest des Weges muss sie zu Fuß laufen.Wie viele Meter ist Zoranas Fußweg lang?Antwort: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/2 |

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| 4. | Sie wollen ein Regal bauen und müssen dazu aus einem langen Brett mehrere Stücke absägen.Das Brett ist 2,50 m lang. Sie benötigen für Ihr Regal zwei Teile mit jeweils 15,00 cm und ein Teil mit 7,00 dm. Zusätzlich brauchen Sie noch zwei Teile mit 0,65 m.Wie viele Meter Holz sind am Ende übrig? Berechnung:

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| **2.3 Dreisatz-, Bruch-, Prozentrechnung** |
| 1. | Sie haben drei Tafeln Schokolade gekauft und bezahlen an der Kasse 2,10 Euro. Ihr Freund Simon steht hinter Ihnen und zählt sein Geld. Er möchte fünf Tafeln der gleichen Schokolade kaufen. Wie viel Geld muss Simon mindestens besitzen um sich die Schokolade leisten zu können?Berechnung:

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| 2. | Zum Entladen eines LKWs benötigen drei Staplerfahrer insgesamt sechs Stunden. Nun ist ein Stapler defekt.Wie lange dauert es nun, den LKW zu entladen?Berechnung:

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| 3. | Für Pendler gibt es bei der Deutschen Bahn ein vergünstigtes Ticket im Abonnement. Herr Mayer zahlt normalerweise für seine Monatskarte 220 Euro. Wenn er diese Karte im Jahresabo kauft, so zahlt er lediglich zehn Monate statt zwölf.Um wie viel Prozent ist das Jahresabo gegenüber dem monatlichen Kauf günstiger?Berechnung:

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| 4. | Berechnen Sie.$$\frac{1}{3} + \frac{1}{6} – \frac{1}{4} = $$

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| **2.4 Grundkenntnisse der Geometrie** |
| 1. | Benennen Sie folgende geometrische Formen mit ihren Fachbegriffen.

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| 2. | Bestimmen Sie folgende Winkelmaße mit dem Geodreieck.

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|  | α = \_\_\_\_\_\_\_\_ |
|  | β = \_\_\_\_\_\_\_\_ |
|  | γ = \_\_\_\_\_\_\_\_ |

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| 3. | Bezeichnen Sie die Bilder mit den passenden Fachbegriffen.

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| 4. | Die vordere Ansichtsfläche eines Hauses soll gestrichen werden (siehe Zeichnung). Damit Sie wissen, wie viel Farbe Sie benötigen, müssen Sie zunächst die zu streichende Fläche A berechnen.Berechnung:

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A = \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/4 |

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| **2.5 Formeln und Gleichungen** |
| 1. | Lösen Sie jeweils nach x auf und berechnen Sie die Lösung.$2 ∙ \left(x + 5\right) = 4 – x$

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x = \_\_\_\_\_\_\_\_\_ | \_\_\_\_/3 |
| 2. | Viktoria ist jetzt doppelt so alt wie Florian. Vor zehn Jahren war sie dreimal so alt wie er. Wie alt sind beide heute?

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Alter Viktoria: \_\_\_\_\_\_\_\_\_\_\_ Alter Florian: \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_/5 |
| 3. | Sie haben in der Formelsammlung folgende Formel gefunden.Flächeninhalt eines Trapezes: $A = \frac{1}{2} ∙ \left(g\_{1} + g\_{2}\right) ∙ h $ Kreuzen Sie die richtige Formel an, um die Höhe h zu berechnen.

|  |  |
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|  |  $h = \frac{2 ∙ (g\_{1} + g\_{2})}{A}$ |
|  |
|  |
|  |  $h = \frac{1}{2} ∙ \left(g\_{1} + g\_{2}\right) - A$ |
|  |
|  |
|  |  $h = \frac{A}{\frac{1}{2} ∙ (g\_{1} + g\_{2})}$ |
|  |
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