

## DIE AUFGABEN

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**Regeln: Division durch Bruch = Multiplikation mit dem Kehrwert**

**Ganze Zahlen in Brüche verwandeln:  $z = \frac{z}{1}$**

**Vorzeichen separat rechnen  $\left(\frac{-a}{b} = \frac{a}{-b} = -\frac{a}{b} \text{ und } \frac{-a}{-b} = \frac{a}{b}\right)$**

1  $\frac{u^2}{v^2} : u =$

2  $\frac{5km}{6} : \frac{3k}{2m} =$

3  $19r^2s^2 : \frac{19r^2s^2}{23t} =$

4  $\frac{112u^2}{19xyz} : \frac{-7u}{19xyz} =$

5  $\frac{xy}{wz} : yz =$

6  $21u^2v : \frac{7u^3}{9v^2} =$

7  $\left(-\frac{78f}{85h^3}\right) : \left(-\frac{48f^2}{85h^3}\right) =$

8  $\frac{x^3}{z} : \left(-\frac{x^2}{z}\right) =$

9  $\frac{-14xy}{9z^3} : \frac{21x^2}{99z^2} =$

10  $-\frac{72a^9}{c} : (-24a^3) =$

11  $\left(-\frac{abc}{3}\right) : ab^2 =$

12  $\frac{9c^2d}{ab} : 9c^2d =$

## DIE LÖSUNGEN

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$$1 \quad \frac{u^2}{v^2} : u = \frac{u^2}{v^2} : \frac{u}{1} = \frac{u^2}{v^2} \cdot \frac{1}{u} = \frac{u}{v^2}$$

$$2 \quad \frac{5km}{6} : \frac{3k}{2m} = \frac{5km}{6} \cdot \frac{2m}{3k} = \frac{5m^2}{9}$$

$$3 \quad 19r^2s^2 : \frac{19r^2s^2}{23t} = \frac{19r^2s^2}{1} \cdot \frac{23t}{19r^2s^2} = \frac{23t}{1} = 23t$$

$$4 \quad \frac{112u^2}{19xyz} : \frac{-7u}{19xyz} = -\frac{112u^2}{19xyz} \cdot \frac{19xyz}{7u} = -\frac{16u}{1} = -16u$$

$$5 \quad \frac{xy}{wz} : yz = \frac{xy}{wz} \cdot \frac{1}{yz} = \frac{x}{wz^2}$$

$$6 \quad 21u^2v : \frac{7u^3}{9v^2} = \frac{21u^2v}{1} \cdot \frac{9v^2}{7u^3} = \frac{27v^3}{u}$$

$$7 \quad \left(-\frac{72f}{85h^3}\right) : \left(-\frac{48f^2}{85h^3}\right) = +\frac{72f}{85h^3} \cdot \frac{85h^3}{48f^2} = \frac{3}{2f}$$

$$8 \quad \frac{x^3}{z} : \left(-\frac{x^2}{z}\right) = -\frac{x^3}{z} \cdot \frac{z}{x^2} = -\frac{x}{1} = -x$$

$$9 \quad \frac{-14xy}{9z^3} : \frac{21x^2}{99z^2} = -\frac{14xy}{9z^3} \cdot \frac{99z^2}{21x^2} = -\frac{22y}{3xz}$$

$$10 \quad -\frac{72a^9}{c} : (-24a^3) = +\frac{72a^9}{c} \cdot \frac{1}{24a^3} = \frac{3a^6}{c}$$

$$11 \quad \left(-\frac{abc}{3}\right) : ab^2 = -\frac{abc}{3} \cdot \frac{1}{ab^2} = -\frac{c}{3b}$$

$$12 \quad \frac{9c^2d}{ab} : 9c^2d = \frac{9c^2d}{ab} \cdot \frac{1}{9c^2d} = \frac{1}{ab}$$