

Algebra-Aufgaben : Gleichungen 2

① a)  $\underline{x = 1 - a^2}$

b)  $\underline{x = a + 3b - 2c}$

c)  $\underline{x = a^2 + a(1+a)}$   
 $= a^2 + a + a^2 = \underline{a + 2a^2}$

d)  $\underline{x = 4m^2 - 1}$  ( $= (2m+1)(2m-1)$ )

e)  $\underline{x = 2p - q + 4p}$   
 $= \underline{6p - q}$

f)  $\underline{x = 7a - 3b + c - 2b + 3c}$   
 $= \underline{7a - 5b + 4c}$

g)  $\underline{x = \frac{3a^2 - 2ab}{a^2}}$   
 $= \frac{a(3a - 2b)}{a^2} = \underline{\underline{\frac{3a - 2b}{a}}}$

h)  $\underline{x = \frac{3u^2v}{uv}} = \underline{\underline{3u}}$

i)  $\underline{x = \frac{3c}{a}}$

j)  $\underline{x = (1-a^2)(1+a^2)} = \underline{1 - a^4}$

k)  $\underline{x = \frac{(6m-3n)(2m+n)}{3}}$   
 $= \frac{3(2m-n)(2m+n)}{3}$   
 $= (2m-n)(2m+n) = \underline{\underline{4m^2 - n^2}}$

(2)

$$A = \frac{b \cdot r}{2}$$

$$a) \quad b = \frac{2A}{r}, \quad r = \frac{2A}{b}$$

$$b) \quad A = \frac{b \cdot r}{2} \quad \text{mit } r = 5 \text{ cm}, \quad b = 12 \text{ cm}$$

$$\Rightarrow \underline{A} = \frac{12 \text{ cm} \cdot 5 \text{ cm}}{2} = \underline{30 \text{ cm}^2}$$

$$c) \quad r = \frac{2A}{b} \quad \text{mit } A = 15 \text{ cm}^2, \quad b = 4 \text{ cm}$$

$$\Rightarrow \underline{r} = \frac{2 \cdot 15 \text{ cm}^2}{4 \text{ cm}} = \underline{\frac{15}{2} \text{ cm}} \quad (7\frac{1}{2} \text{ cm})$$

$$d) \quad b = \frac{2A}{r} \quad \text{mit } A = 8 \text{ cm}^2, \quad r = 4 \text{ cm}$$

$$\Rightarrow \underline{b} = \frac{2 \cdot 8 \text{ cm}^2}{4 \text{ cm}} = \underline{4 \text{ cm}}$$