

Bruchgleichungen - Test (BG 3-4)

Name _____ Datum _____

Löse jede Gleichung. Beachte, dass es mehrere Lösungen geben kann! (Verbindung mit quadratischen Gleichungen)

1)
$$\frac{6a+30}{a^2} = \frac{4a+6}{a^2} + \frac{1}{5a}$$

2)
$$\frac{1}{2k} = \frac{3k-12}{2k^2} - \frac{1}{k^2}$$

3)
$$\frac{3}{2x^2} - \frac{1}{2x} = \frac{1}{2x^2}$$

4)
$$\frac{1}{4n} + \frac{1}{2n} = \frac{n-2}{4n^2}$$

5)
$$\frac{3x+3}{4x^2} = \frac{1}{x^2} - \frac{1}{4x}$$

6)
$$\frac{1}{3m} + \frac{m-2}{3m^2} = \frac{4m-20}{m^2}$$

7)
$$\frac{1}{2n} = \frac{n-3}{6n^2} + \frac{n+1}{6n^2}$$

8)
$$\frac{1}{3p} = \frac{5}{3} + \frac{1}{p}$$

9)
$$\frac{1}{5x} - \frac{1}{5x^2} = \frac{3}{5x}$$

10)
$$4 + \frac{r+6}{3r} = \frac{r-4}{3r}$$

11)
$$\frac{1}{b^2} + \frac{1}{b} = \frac{1}{2b}$$

12)
$$\frac{1}{n^2} + \frac{n+6}{n^2} = \frac{3n-15}{n^2}$$

13)
$$\frac{5}{n^2-3n-4} = \frac{1}{n^2-3n-4} + \frac{1}{n+1}$$

14)
$$\frac{1}{4v} = \frac{2}{v} - \frac{v+6}{4v}$$

15)
$$\frac{1}{a^2-6a+5} + \frac{1}{a-5} = \frac{6}{a^2-6a+5}$$

16)
$$\frac{x-5}{x^2-9x+18} = \frac{1}{x-6} - \frac{x-2}{x^2-9x+18}$$

17)
$$1 = \frac{1}{p^2+2p-8} + \frac{p+2}{p-2}$$

18)
$$\frac{x-6}{x^2+8x+12} + \frac{x+6}{x+2} = \frac{4x^2+12x-40}{x^2+8x+12}$$

19)
$$\frac{1}{3n^2} = \frac{n-4}{6n^2} + \frac{1}{6}$$

20)
$$m+4 - \frac{1}{m} = \frac{5}{2}$$

21)
$$\frac{r+1}{6} + \frac{1}{r} = \frac{r^2-5r+6}{r}$$

22)
$$\frac{1}{2x^2} - \frac{x-6}{2x^2} = 3$$