

Pracovní list (sčítání lomených výrazů – kvarta)

Jméno: _____

Sečtěte:

Strana 1

$$1. \frac{a+b}{2} + \frac{a-b}{2} + \frac{a+2b}{2} =$$

$$2. \frac{x^2-2y^2}{4} - \frac{5y^2-3x^2}{4} =$$

$$3. \frac{a-1}{b} + \frac{2a+3}{b} - \frac{3a-5}{b} =$$

$$4. \frac{x-y}{2x-5y} - \frac{2y-x}{2x-5y} =$$

$$5. \frac{x}{3} + \frac{2x}{10} + \frac{4x}{15} =$$

$$6. \frac{4a-5b}{12} - \frac{3a-2b}{18} =$$

$$7. \frac{x}{3y} + \frac{3x}{4y} + \frac{x}{8y} =$$

Podpis rodičů:

$$8. \frac{a+1}{2} + \frac{b-1}{3} + \frac{a-b+2}{4} + \frac{b-a-1}{6} + \frac{3b-a}{12} =$$

$$9. \frac{2a-c}{4c} - \frac{3a^2-2bc}{6ac} - \frac{3a}{b} + \frac{5a-b}{2b} - \frac{4b+a}{8b} =$$

$$10. \frac{3c-2b}{8bc} + \frac{a-4b}{12ab} + \frac{5a-c}{6ac} - \frac{2c-3b}{3bc} - \frac{3}{4a} =$$

$$11. \frac{1}{a} - \frac{1-a}{a^2} + \frac{1-a^2}{a^3} - \frac{1-a^3}{a^4} + \frac{1-a^4}{a^5} =$$

$$12. \frac{a}{a-b} - 1 =$$

$$13. a - \frac{a^2 - b^2}{a} =$$

$$14. a + b - \frac{a^2 - b^2}{a} =$$

Podpis rodičů:

$$15. \frac{a^2+b^2}{a} - a - b =$$

Strana 3

$$16. \frac{4}{r-s} - \frac{1}{s-r} =$$

$$17. \frac{3a+b}{a-b} - \frac{4b}{b-a} =$$

$$18. \frac{5}{m-n} - \frac{3}{2m-2n} =$$

$$19. \frac{x}{y-1} - \frac{x}{2-2y} =$$

$$20. \frac{2x-y}{x^2+xy} - \frac{1}{x} - \frac{1}{x+y} =$$

$$21. \frac{2x}{x+y} + \frac{3y}{x-y} - \frac{2x^2+3y^2}{x^2-y^2} =$$

$$22. \frac{3+2x}{2-x} - \frac{2-3x}{2+x} + \frac{x(16-x)}{x^2-4} =$$

Podpis rodičů:

$$23. \frac{a+b}{(a-b)^2} + \frac{a-b}{(a+b)^2} - \frac{2a}{a^2-b^2} =$$

$$24. \frac{7}{2x-4} - \frac{3}{x+2} - \frac{12}{x^2-4} =$$

$$25. \frac{5}{2x^2+6x} - \frac{4-3x^2}{x^2-9} - 3 =$$

$$26. \frac{1}{x-2a} + \frac{1}{x+2a} + \frac{8a^2}{4a^2x-x^3} =$$

$$27. \frac{4a^2-3a+5}{a^3-1} - \frac{1-2a}{a^2+a+1} + \frac{6}{1-a} =$$

$$28. \frac{3}{x+2} - \frac{4}{x-2} + \frac{2x}{x^2+4x+4} =$$

Podpis rodičů:

Řešení:

$$1. \frac{a+b}{2} + \frac{a-b}{2} + \frac{a+2b}{2} = \left[\frac{3a+2b}{2} \right]$$

$$2. \frac{x^2-2y^2}{4} - \frac{5y^2-3x^2}{4} = \left[\frac{4x^2-7y^2}{4} \right]$$

$$3. \frac{a-1}{b} + \frac{2a+3}{b} - \frac{3a-5}{b} = \left[\frac{7}{b} \right]$$

$$4. \frac{x-y}{2x-5y} - \frac{2y-x}{2x-5y} = \left[\frac{2x-3y}{2x-5y} \right]$$

$$5. \frac{x}{3} + \frac{2x}{10} + \frac{4x}{15} = \left[\frac{4x}{5} \right]$$

$$6. \frac{4a-5b}{12} - \frac{3a-2b}{18} = \left[\frac{6a-11b}{36} \right]$$

$$7. \frac{x}{3y} + \frac{3x}{4y} + \frac{x}{8y} = \left[\frac{29x}{24y} \right]$$

$$8. \frac{a+1}{2} + \frac{b-1}{3} + \frac{a-b+2}{4} + \frac{b-a-1}{6} + \frac{3b-a}{12} = \left[\frac{a+b+1}{2} \right]$$

$$9. \frac{2a-c}{4c} - \frac{3a^2-2bc}{6ac} - \frac{3a}{b} + \frac{5a-b}{2b} - \frac{4b+a}{8b} =$$

$$\left[\frac{8b^2-30ab-15a^2}{24ab} \right]$$

$$10. \frac{3c-2b}{8bc} + \frac{a-4b}{12ab} + \frac{5a-c}{6ac} - \frac{2c-3b}{3bc} - \frac{3}{4a} =$$

$$\left[\frac{38ab-5ac-30bc}{24abc} \right]$$

$$11. \frac{1}{a} - \frac{1-a}{a^2} + \frac{1-a^2}{a^3} - \frac{1-a^3}{a^4} + \frac{1-a^4}{a^5} =$$

$$\left[\frac{a^4-a^3+a^2-a+1}{a^5} \right]$$

$$12. \frac{a}{a-b} - 1 =$$

$$\left[\frac{b}{a-b} \right]$$

$$13. \quad a - \frac{a^2 - b^2}{a} =$$

$$\left[\frac{b^2}{a} \right]$$

$$14. \quad a + b - \frac{a^2 - b^2}{a} =$$

$$\left[\frac{b(a+b)}{a} \right]$$

$$15. \quad \frac{a^2 + b^2}{a} - a - b =$$

$$\left[\frac{b(b-a)}{a} \right]$$

$$16. \quad \frac{4}{r-s} - \frac{1}{s-r} =$$

$$\left[\frac{5}{r-s} \right]$$

$$17. \quad \frac{3a+b}{a-b} - \frac{4b}{b-a} =$$

$$\left[\frac{3a+5b}{a-b} \right]$$

$$18. \quad \frac{5}{m-n} - \frac{3}{2m-2n} =$$

$$\left[\frac{7}{2m-2n} \right]$$

$$19. \quad \frac{x}{y-1} - \frac{x}{2-2y} =$$

$$\left[\frac{3x}{2(y-1)} \right]$$

$$20. \quad \frac{2x-y}{x^2+xy} - \frac{1}{x} - \frac{1}{x+y} =$$

$$\left[\frac{-2y}{x^2+xy} \right]$$

$$21. \quad \frac{2x}{x+y} + \frac{3y}{x-y} - \frac{2x^2+3y^2}{x^2-y^2} = \left[\frac{xy}{x^2-y^2} \right]$$

$$22. \quad \frac{3+2x}{2-x} - \frac{2-3x}{2+x} + \frac{x(16-x)}{x^2-4} = \left[\frac{1}{x+2} \right]$$

$$23. \quad \frac{a+b}{(a-b)^2} + \frac{a-b}{(a+b)^2} - \frac{2a}{a^2-b^2} = \left[\frac{8ab^2}{(a^2-b^2)^2} \right]$$

$$24. \quad \frac{7}{2x-4} - \frac{3}{x+2} - \frac{12}{x^2-4} = \left[\frac{1}{2x-4} \right]$$

$$25. \quad \frac{5}{2x^2+6x} - \frac{4-3x^2}{x^2-9} - 3 = \left[\frac{51x-15}{2x(x^2-9)} \right]$$

$$26. \quad \frac{1}{x-2a} + \frac{1}{x+2a} + \frac{8a^2}{4a^2x-x^3} = \left[\frac{2}{x} \right]$$

$$27. \quad \frac{4a^2-3a+5}{a^3-1} - \frac{1-2a}{a^2+a+1} + \frac{6}{1-a} = \left[-\frac{12a}{a^3-1} \right]$$

$$28. \quad \frac{3}{x+2} - \frac{4}{x-2} + \frac{2x}{x^2+4x+4} = \left[\frac{x^2-20x-28}{(x-2)(x+2)^2} \right]$$

Literatura: Mgr. František Janeček:

Sbírka úloh z matematiky pro střední
školy

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