Mathematics Marathon 28/07/2023 Tasks

24.07.23

Задачи №= 1, 2, 5, 12, 15.

1. $\frac{1}{2} + \frac{2}{3} = \frac{3+4}{6} = \frac{7}{6} = 1\frac{1}{6}$

2. $\frac{3}{2} + \frac{1}{2} = \frac{4}{2} = 2$

1. $\frac{1}{2} + \frac{2}{3} = \frac{3+2}{6} = \frac{5}{6}$

5. $\frac{3}{8} - \frac{1}{4} = \frac{3}{8} - \frac{2}{8} = \frac{1}{8}$

12. $\frac{5}{7} \cdot \frac{85}{70} = \frac{5}{5} \cdot \frac{3}{2} = \frac{15}{6} = \frac{5}{2}$

15. $\frac{1}{2} : \frac{1}{2} = \frac{1}{2} \cdot \frac{2}{1} = \frac{2}{2} = 1$

Задачи №= 8, 9, 10

8. $\frac{5^2 - 1}{18} \cdot \frac{10}{4} = \frac{25-1}{18} \cdot \frac{10}{4} = \frac{24}{18} \cdot \frac{10}{4} =$

$= \frac{4}{3} \cdot \frac{5}{2} = \frac{20}{6} = \frac{10}{3}$

9. $\frac{3}{8} \cdot \frac{24}{5} \cdot \frac{10}{27} = \frac{720}{1080} = \frac{72}{108} = \frac{24}{36} = \frac{4}{6} =$

$= \frac{2}{3}$

10. $\frac{3}{5} \cdot \frac{5}{7} \cdot \frac{7}{9} - \frac{2}{4} \cdot \frac{4}{6} \cdot \frac{6}{8} = \frac{15}{35} \cdot \frac{7}{9} - \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} =$

28.07.23

Coordinate plane

№ 1, 9, 15, 25, 34

№ 2, 10, 16

№ 1, 4

1. 2.

9. (+; +)

15. (2; 4)

25. 9

34. (5; -4)

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2. a = 0

10. (8; 3)

15. (3; 2)

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1. (-2; -3)

4. $S = 0{,}5 \cdot |(x_1 \cdot (y_2 - y_3) + x_2 \cdot (y_3 - y_1) + x_3 \cdot (y_1 - y_2)|$

(0; 1) (2; 3) (3; 0)

$$S = 0{,}5 \cdot |(0 \cdot |3-0| + 2 \cdot |0-1| + 3 \cdot |1-3|)|$$
$$= 0{,}5 \cdot |(0 + 2 \cdot |-1| + 3 \cdot |-2|)| =$$
$$= 0{,}5 \cdot |0 - 2 - 6|$$
$$= 0{,}5 \cdot |-8|$$
$$= 4$$