

SUMAS Y RESTAS DE FRACCIONES

Sumas de fracciones homogéneas.

$$\frac{3}{11} + \frac{7}{11} + \frac{12}{11} = \frac{3+7+12}{11} = \frac{22}{11} = \frac{22 \div 11 = 2}{11 \div 11 = 1} = 2$$

$$\frac{5}{24} + \frac{7}{24} + \frac{11}{24} + \frac{13}{24} + \frac{17}{24} = \frac{5+7+11+13+17}{24} = \frac{53}{24} = 2 \frac{5}{24}$$

53	24
53-48=5	2

Sumas de fracciones heterogéneas.

EJERCICIO: $\frac{1}{12} + \frac{1}{16} + \frac{1}{18} =$

FORMA A: $\frac{1}{12} + \frac{1}{16} + \frac{1}{18} = \frac{12+9+8}{144} = \frac{29}{144}$

12	-	16	-	18	2
6	-	8	-		2
↓	-	4	-	↓	2
↓	-	2	-	↓	2
3	-		-	9	3
↓	-		-	3	3
1	-	1	-	1	

m. c. m. (12, 16, 18) = $2 \times 2 \times 2 \times 2 \times 3 \times 3 = 144$

FORMA B: Fracciones equivalentes.

$$\frac{1}{12} = \frac{1}{12} \times \frac{12}{12} = \frac{12}{144} \quad \frac{1}{16} = \frac{1}{16} \times \frac{9}{9} = \frac{9}{144} \quad \frac{1}{18} = \frac{1}{18} \times \frac{8}{8} = \frac{8}{144}$$

$$\frac{1}{12} + \frac{1}{16} + \frac{1}{18} = \frac{12}{144} + \frac{9}{144} + \frac{8}{144} = \frac{29}{144}$$

Sumas de fracciones heterogéneas.

EJERCICIO: $\frac{3}{4} + \frac{5}{8} + \frac{2}{5} + \frac{3}{10} =$

FORMA A: $\frac{3}{4} + \frac{5}{8} + \frac{2}{5} + \frac{3}{10} = \frac{30+25+16+12}{40} = \frac{83}{40} = 2\frac{3}{40}$

4	-	8	-	5	-	10		2
2	-	4	-	5	-	5		2
2	-	2	-	5	-	5		2
1	-	1	-	1	-	1		5

m. c. m. (4, 8, 5, 10) = $2 \times 2 \times 2 \times 5 = 40$

FORMA B: Fracciones equivalentes:

$\frac{3}{4} = \frac{3}{4} \times \frac{10}{10} = \frac{30}{40}$

$\frac{5}{8} = \frac{5}{8} \times \frac{5}{5} = \frac{25}{40}$

$\frac{2}{5} = \frac{2}{5} \times \frac{8}{8} = \frac{16}{40}$

$\frac{3}{10} = \frac{3}{10} \times \frac{4}{4} = \frac{12}{40}$

$\frac{3}{4} + \frac{5}{8} + \frac{2}{5} + \frac{3}{10} = \frac{30}{40} + \frac{25}{40} + \frac{16}{40} + \frac{12}{40} = \frac{83}{40} = 2\frac{3}{40}$

83	40
83 - 80 = 3	2

Resuelve las siguientes sumas de fracciones.

SUMAS DE FRACCIONES	RESPUESTAS
$\frac{2}{5} + \frac{3}{5} + \frac{4}{5} =$	4
$\frac{3}{4} + \frac{1}{4} + \frac{5}{4} + \frac{7}{4} =$	$1\frac{1}{2}$
$\frac{3}{8} + \frac{5}{8} + \frac{2}{8} =$	$1\frac{4}{5}$
$\frac{5}{21} + \frac{10}{21} + \frac{23}{21} + \frac{4}{21} =$	$2\frac{3}{16}$

$$\frac{3}{17} + \frac{8}{17} + \frac{11}{17} + \frac{23}{17} =$$

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

$$\frac{5}{4} + \frac{7}{8} + \frac{1}{16} =$$

$$\frac{7}{5} + \frac{8}{15} + \frac{11}{60} =$$

$$\frac{3}{5} + \frac{7}{4} + \frac{11}{6} =$$

$$\frac{1}{12} + \frac{1}{16} + \frac{1}{18} =$$

$$4\frac{11}{60}$$

$$1\frac{1}{4}$$

$$2\frac{7}{60}$$

$$2\frac{11}{17}$$

$$2$$

$$\frac{29}{144}$$

Restas de fracciones homogéneas.

$$\frac{17}{20} - \frac{7}{20} = \frac{17-7}{20} = \frac{10 \div 2 = 5 \div 5 = 1}{20 \div 2 = 10 \div 5 = 2} = \frac{1}{2}$$

$$\frac{19}{42} - \frac{12}{42} = \frac{19-12}{42} = \frac{7}{42} = \frac{7 \div 7}{42 \div 7} = \frac{1}{6}$$

Restas de fracciones heterogéneas.

EJERCICIO: $\frac{11}{8} - \frac{7}{24} =$

FORMA A: $\frac{11}{8} - \frac{7}{24} = \frac{33-7}{24} = \frac{26 \div 2 = 13}{24 \div 2 = 12} = \frac{13}{12} = 1 \frac{1}{12}$

13	12
13 - 12 = 1	1

8 - 24	2
4 - 12	2
2 - 6	2
1 - 3	3
1 - 1	

$m. c. m. (8, 24) = 2 \times 2 \times 3 = 24$

FORMA B: Fracciones equivalentes.

$$\frac{11}{8} = \frac{11}{8} \times \frac{3}{3} = \frac{33}{24}$$

$$\frac{11}{8} - \frac{7}{24} = \frac{33}{24} - \frac{7}{24} = \frac{26}{24} = \frac{26 \div 2 = 13}{24 \div 2 = 12} = \frac{13}{12} = 1 \frac{1}{12}$$

Resuelve las siguientes restas de fracciones.

RESTAS DE FRACCIONES	RESPUESTAS
$\frac{4}{5} - \frac{1}{5} =$	$\frac{1}{3}$
$\frac{11}{14} - \frac{5}{14} =$	$\frac{2}{5}$
$\frac{8}{15} - \frac{3}{15} =$	$\frac{1}{6}$
$\frac{9}{16} - \frac{5}{16} =$	$7\frac{1}{3}$
$\frac{24}{35} - \frac{10}{35} =$	$\frac{3}{5}$
$\frac{1}{2} - \frac{1}{3} =$	$8\frac{1}{10}$
$\frac{3}{5} - \frac{1}{10} =$	$\frac{23}{48}$
$\frac{11}{12} - \frac{7}{16} =$	$\frac{1}{2}$
$8 - \frac{2}{3} =$	$\frac{1}{4}$
$9 - \frac{9}{10} =$	$\frac{3}{7}$