

Arithmetic practice

Skill 1.1 Multiplying and dividing fractions

Evaluate the following:

- | | |
|---|--|
| 1 $\frac{5}{8} \times \frac{3}{4}$ | 2 $\frac{2}{3} \times \frac{9}{12} \times \frac{1}{2}$ |
| 3 $\frac{3}{8} \times \frac{5}{7} \times \frac{11}{12}$ | 4 $\frac{3}{7} \times \frac{1}{8} \times \frac{1}{4}$ |
| 5 $\frac{9}{12} \times \frac{3}{9} \times \frac{2}{12}$ | 6 $\frac{6}{11} \div \frac{2}{3}$ |
| 7 $\frac{3}{4} \div \frac{1}{8}$ | 8 $\frac{9}{17} \div \frac{3}{24}$ |
| 9 $\frac{2}{3} \div \frac{1}{4}$ | 10 $\frac{3}{8} \div \frac{2}{7} \div \frac{3}{4}$ |

Skill 1.2 Equivalent fractions and cancelling

Cancel the following fractions:

- | | | | |
|---------------------|--------------------|---------------------|--------------------|
| 1 $\frac{6}{8}$ | 2 $\frac{3}{12}$ | 3 $\frac{7}{49}$ | 4 $\frac{9}{72}$ |
| 5 $\frac{11}{121}$ | 6 $\frac{6}{36}$ | 7 $\frac{14}{21}$ | 8 $\frac{9}{54}$ |
| 9 $\frac{10}{200}$ | 10 $\frac{16}{56}$ | 11 $\frac{15}{35}$ | 12 $\frac{25}{35}$ |
| 13 $\frac{75}{120}$ | 14 $\frac{9}{81}$ | 15 $\frac{36}{128}$ | |

Skill 1.3 Adding and subtracting fractions

Calculate the following:

- | | | |
|---------------------------------|--------------------------------|--------------------------------|
| 1 $\frac{2}{3} + \frac{1}{8}$ | 2 $\frac{5}{7} + \frac{6}{11}$ | 3 $\frac{9}{11} + \frac{4}{7}$ |
| 4 $\frac{11}{12} + \frac{1}{4}$ | 5 $\frac{2}{5} + \frac{1}{15}$ | 6 $\frac{2}{3} - \frac{1}{4}$ |
| 7 $\frac{5}{9} - \frac{2}{3}$ | 8 $\frac{6}{11} - \frac{1}{3}$ | 9 $\frac{5}{7} - \frac{1}{3}$ |
| 10 $\frac{8}{11} - \frac{1}{4}$ | | |

Skill 1.4 Working with mixed numbers

Calculate the following:

- | | | |
|--------------------------------------|--------------------------------------|--------------------------------------|
| 1 $2\frac{1}{2} + 1\frac{1}{3}$ | 2 $6\frac{1}{4} + 1\frac{1}{3}$ | 3 $9\frac{1}{3} + 6\frac{1}{8}$ |
| 4 $1\frac{2}{3} - 1\frac{1}{8}$ | 5 $8\frac{1}{3} - 3\frac{1}{4}$ | 6 $10\frac{1}{3} - 2\frac{1}{4}$ |
| 7 $2\frac{1}{2} \times 3\frac{1}{4}$ | 8 $9\frac{1}{3} \times 2\frac{1}{2}$ | 9 $6\frac{1}{8} \times 3\frac{1}{4}$ |
| 10 $11\frac{2}{3} \div 1\frac{1}{2}$ | 11 $6\frac{1}{8} \div 1\frac{1}{4}$ | 12 $9\frac{2}{3} \div 2\frac{1}{3}$ |

Skill 1.5 Converting decimals into fractions

Convert these decimals into fractions

- | | | |
|-----------|-----------|----------|
| 1 0.42 | 2 0.81 | 3 0.01 |
| 4 1.012 | 5 6.049 | 6 3.018 |
| 7 2.025 | 8 9.125 | 9 11.012 |
| 10 6.002 | 11 17.05 | 12 6.018 |
| 13 17.049 | 14 16.028 | 15 5.05 |

Skill 1.6 Converting fractions into decimals

Convert these fractions into decimals:

- | | | | | |
|-------------------|-------------------|------------------|------------------|------------------|
| 1 $\frac{2}{3}$ | 2 $\frac{1}{5}$ | 3 $\frac{2}{5}$ | 4 $\frac{3}{4}$ | 5 $\frac{3}{8}$ |
| 6 $\frac{7}{8}$ | 7 $\frac{2}{9}$ | 8 $\frac{1}{7}$ | 9 $\frac{5}{6}$ | 10 $\frac{5}{8}$ |
| 11 $\frac{2}{11}$ | 12 $\frac{3}{11}$ | 13 $\frac{3}{7}$ | 14 $\frac{1}{6}$ | 15 $\frac{1}{8}$ |

Skill 1.7 Adding and subtracting decimals

Complete these calculations:

- $2.09 + 5.7 + 0.002 + 8.02$
- $15.07 + 3.9 + 8.0012$
- $18.138 - 4.018$
- $21.014 - 13.187$
- $168 - 3.076$
- $15.8 + 3.9 - 2.04$
- $17.04 + 2.013 - 0.008$
- $120.3 + 14.98 + 3.02 - 12.002$
- $15.3 + 6 + 18.2 + 19.21 + 18.3$
- $183 - 89.381 + 3.98$

Skill 1.8 Multiplying decimals

- | | |
|----------------------|------------------------|
| 1 4.9×1.2 | 2 3.08×1.3 |
| 3 0.14×6 | 4 15×0.013 |
| 5 6×3.08 | 6 7×0.421 |
| 7 15.2×2.4 | 8 1.13×4.2 |
| 9 0.182×63 | 10 9.89×0.037 |
| 11 6.09×3.2 | 12 6.09×3.1 |

Skill 1.9 Dividing decimals

- | | |
|-------------------------|------------------------|
| 1 $24.68 \div 0.02$ | 2 $44.81 \div 0.005$ |
| 3 $1155.84 \div 0.12$ | 4 $86861.94 \div 0.11$ |
| 5 $569.259 \div 0.009$ | 6 $511.284 \div 0.006$ |
| 7 $3950.528 \div 0.004$ | 8 $307.35 \div 0.03$ |
| 9 $906.03 \div 0.03$ | 10 $120.63 \div 0.006$ |

Skill 1.10 Adding and subtracting directed numbers

- | | |
|------------------------|-----------------------|
| 1 $-2 - 3 - 8$ | 2 $4 - 8 - 12$ |
| 3 $12 - 8 - 21$ | 4 $-8 - 9 + 11$ |
| 5 $16 - 8 + 4$ | 6 $13 - 8 + 14$ |
| 7 $13 - 81 + 14$ | 8 $-3 - 8 + 21$ |
| 9 $14 - 18 + 21$ | 10 $15 - 18 - 12 - 8$ |
| 11 $-2 - 8 - 7 + 3$ | 12 $18 - 3 - 21$ |
| 13 $-18 + 15 - 21 + 3$ | |
| 14 $-9 + 3 - 8 + 11$ | 15 $21 - 8 + 31$ |

Skill 1.11 Double signs

Simplify the following:

1 $--3$ 2 $+ -3$ 3 $--8$ 4 $+ -8$

5 $- +9$ 6 $+ +11$ 7 $- +8$ 8 $+ -4$

9 $+ +6$ 10 $- +12$

Skill 1.12 Multiplying and dividing directed numbers

1 2×-3 2 -8×3

3 -4×-2 4 -6×-11

5 -3×-2 6 -6×11

7 8×3 8 -9×3

9 $-2 \times -3 \times -4$ 10 $4 \times 3 \times -8$

11 $6 \times -3 \times -8$ 12 $-4 \times -3 \times -8$

13 $-16 \div 8$ 14 $-24 \div -3$

15 $-15 \div -3$ 16 $24 \div -3$

17 $42 \div -6$ 18 $-14 \div -7$

19 $-21 \div -7$ 20 $21 \div -3$

21 $-30 \div -6$ 22 $-21 \div 2$

23 $-18 \div 9$ 24 $24 \div -8$

Skill 1.13 Order of operations

1 $2 + 3(4 - 8 - 7)$

2 $-5 - 3(6 + 11) + 21$

3 $17 - 8(4 - 8 - 2) - 11$

4 $\frac{-18}{2} + 3 \times -4 - 4(2 + 3 + 10)$

5 $\frac{-24}{-3} + 14 \times -2 - 8 + 3 \times -4$

6 $-6(2.1 + 3.8) + 12.04$

7 $-4 \times 3 + \frac{18}{-2} - 4 \times 8$

8 $\frac{2}{3} \left(\frac{5}{8} + \frac{1}{3} \right) - \frac{1}{2}$

9 $\frac{1}{2} \left(\frac{4}{5} + \frac{1}{4} \right) + \frac{1}{5}$

10 $\frac{2}{3} \times \frac{1}{2} - \frac{1}{4} \left(\frac{2}{3} - \frac{1}{2} \right)$

1 Arithmetic

Skill 1.1

1 $\frac{15}{32}$	2 $\frac{1}{4}$	3 $\frac{55}{224}$	4 $\frac{3}{224}$
5 $\frac{1}{24}$	6 $\frac{9}{11}$	7 6	8 $4\frac{4}{17}$
9 $2\frac{2}{3}$	10 $1\frac{3}{4}$		

Skill 1.2

1 $\frac{3}{4}$	2 $\frac{1}{4}$	3 $\frac{1}{7}$	4 $\frac{1}{8}$	5 $\frac{1}{11}$
6 $\frac{1}{6}$	7 $\frac{2}{3}$	8 $\frac{1}{6}$	9 $\frac{1}{20}$	10 $\frac{2}{7}$
11 $\frac{3}{7}$	12 $\frac{5}{7}$	13 $\frac{5}{8}$	14 $\frac{1}{9}$	15 $\frac{9}{32}$

Skill 1.3

1 $\frac{19}{24}$	2 $1\frac{20}{77}$	3 $1\frac{30}{77}$	4 $1\frac{1}{6}$
5 $\frac{7}{15}$	6 $\frac{5}{12}$	7 $-\frac{1}{9}$	8 $\frac{7}{33}$
9 $\frac{8}{21}$	10 $\frac{21}{44}$		

Skill 1.4

1 $3\frac{7}{10}$	2 $7\frac{7}{12}$	3 $15\frac{11}{24}$	4 $\frac{13}{24}$
5 $5\frac{1}{12}$	6 $8\frac{1}{12}$	7 $8\frac{1}{8}$	8 $23\frac{1}{3}$
9 $19\frac{29}{32}$	10 $7\frac{7}{9}$	11 $4\frac{9}{10}$	12 $4\frac{3}{11}$

Skill 1.5

1 $\frac{21}{50}$	2 $\frac{81}{100}$	3 $\frac{1}{100}$	4 $1\frac{3}{250}$
5 $6\frac{49}{1000}$	6 $6\frac{9}{500}$	7 $2\frac{1}{40}$	8 $9\frac{1}{8}$
9 $11\frac{3}{250}$	10 $6\frac{1}{500}$	11 $17\frac{1}{20}$	12 $6\frac{9}{500}$
13 $17\frac{49}{1000}$	14 $16\frac{7}{250}$	15 $5\frac{1}{20}$	

Skill 1.6

1 0.6	2 0.2	3 0.4
4 0.75	5 0.375	6 0.875
7 0.2	8 0.142857	9 0.83
10 0.625	11 0.18	12 0.27
13 0.428571	14 0.16	15 0.125

Skill 1.7

1 15.812	2 26.9712	3 14.12
4 7.827	5 164.924	6 17.66
7 19.045	8 126.298	9 77.01
10 97.599		

Skill 1.8

1 5.88	2 4.004	3 0.84
4 0.195	5 18.48	6 2.947
7 36.48	8 4.746	9 11.466
10 0.365 93	11 19.488	12 18.879

Skill 1.9

1 1234	2 8962	3 9632
4 789 654	5 63 251	6 85 214
7 987 632	8 10 245	9 30 201
10 20 105		

Skill 1.10

1 -13	2 -16	3 -17	4 -6	5 12
6 19	7 -54	8 10	9 17	10 -23
11 -14	12 -6	13 -21	14 -3	15 44

Skill 1.11

1 +3	2 -3	3 +8	4 -8	5 -9
6 +11	7 -8	8 -4	9 +6	10 -12

Skill 1.12

1 -6	2 -24	3 8	4 66
5 6	6 -66	7 24	8 -27
9 -24	10 -96	11 144	12 -96
13 -2	14 8	15 5	16 -8
17 -7	18 2	19 3	20 -7
21 5	22 -10.5	23 -2	24 -3

Skill 1.13

1 -31	2 -35	3 54	4 -81
5 -40	6 -23.36	7 -53	8 $\frac{5}{36}$
9 $\frac{29}{40}$	10 $\frac{7}{24}$		