

Answers - Equivalent Fractions Book 1

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Q1: a) 3 b) 8 c) 1 d) 7

Q2: a) 4 b) 4 c) 6 d) 5 e) 5 f) 10 g) 8 h) 3 Q3: a) ii b) i

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Q1: a. DOUBLE the first number and multiply by 2.

$10 \times 2 = 20$	$12 \times 2 = 24$	$20 \times 2 = 40$	$8 \times 2 = 16$
$20 \times 2 = 40$	$24 \times 2 = 48$	$40 \times 2 = 80$	$16 \times 2 = 32$

What pattern do you see? The answer is **doubled**.

b. HALF the first number and multiply by 2.

$10 \times 2 = 20$	$12 \times 2 = 24$	$20 \times 2 = 40$	$8 \times 2 = 16$
$5 \times 2 = 10$	$6 \times 2 = 12$	$10 \times 2 = 20$	$4 \times 2 = 8$

What pattern do you see? The answer is halved.

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Q2: a. DOUBLE the first number and multiply by 3.

$10 \times 3 = 30$	$12 \times 3 = 36$	$20 \times 3 = 60$	$8 \times 3 = 24$
$20 \times 3 = 60$	$24 \times 3 = 72$	$40 \times 3 = 120$	$16 \times 3 = 48$

What pattern do you see? The answer is doubled.

b. HALF the first number and multiply by 3.

$10 \times 3 = 30$	$12 \times 3 = 36$	$20 \times 3 = 60$	$8 \times 3 = 24$
$5 \times 3 = 15$	$6 \times 3 = 18$	$10 \times 3 = 30$	$4 \times 3 = 12$

What pattern do you see? The answer is halved.

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Q1: a) $\frac{1}{2}$ b) $\frac{3}{6}$ c) 3 (d, e, f) is 3

Q2: a) $\frac{1}{2}$ b) $\frac{4}{8}$ c) 4 (d, e, f) is 4

Q3: a) 4 b) 6 c) 8 d) 10

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Q1: a) 5 b) $5 \times \frac{1}{2} = \frac{5}{2}$ c) $\frac{5}{10}$

Q2: a) 6 b) $6 \times \frac{1}{2} = \frac{6}{2}$ c) $\frac{6}{12}$

Q3: a) 8 b) $8 \times \frac{1}{2} = \frac{8}{2}$ c) $\frac{8}{16}$

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Q1: a) 2 b) 4

Q2: a) 3 b) 6

Q3: a) $\frac{1}{2} = \frac{7}{14}$ b) $\frac{1}{2} = \frac{5}{10}$

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Q1: a) 2 b) 2 $\frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$

Q2: a) 3 b) 3 $\frac{1}{3} \times \frac{3}{3} = \frac{3}{9}$

Q3: a) 4 b) 4 $\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$

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Q1: a) 5, $\times 5$ $\frac{1}{3} \times \frac{5}{5} = \frac{5}{15}$

Q1: b) 6, $\times 6$ $\frac{1}{3} \times \frac{6}{6} = \frac{6}{18}$

Q2: a) $\frac{2}{6}$ b) $\frac{3}{9}$ c) $\frac{4}{12}$ d) $\frac{5}{15}$ e) $\frac{6}{18}$

Q3: a) $\frac{8}{24}$ b) $\frac{10}{30}$ c) $\frac{9}{27}$ d) $\frac{12}{36}$ e) $\frac{15}{45}$

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Q1: a) 4 b) 4 $\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$

Q2: a) 6 b) 6 $\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$

Q3: a) 8 b) 8 $\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$

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Q1: a) 10, $\times 5$ $\frac{2}{3} \times \frac{5}{5} = \frac{10}{15}$

Q1: b) 12, $\times 6$ $\frac{2}{3} \times \frac{6}{6} = \frac{12}{18}$

Q2: a) $\frac{4}{6}$ b) $\frac{6}{9}$ c) $\frac{8}{12}$ d) $\frac{10}{15}$ e) $\frac{12}{18}$

Q3: a) $\frac{16}{24}$ b) $\frac{20}{30}$ c) $\frac{18}{27}$ d) $\frac{24}{36}$ e) $\frac{30}{45}$

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Q1: a) 2 b) 2 $\frac{1}{4} \times \frac{2}{2} = \frac{2}{8}$

Q2: a) 3 b) 3 $\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$

Q3: a) 4 b) 4 $\frac{1}{4} \times \frac{4}{4} = \frac{4}{16}$

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Q1: a) 5, $\times 5$ $\frac{1}{4} \times \frac{5}{5} = \frac{5}{20}$

Q1: b) 6, $\times 6$ $\frac{1}{4} \times \frac{6}{6} = \frac{6}{24}$

Q2: a) $\frac{2}{8}$ b) $\frac{3}{12}$ c) $\frac{4}{16}$ d) $\frac{5}{20}$ e) $\frac{6}{24}$

Q3: a) $\frac{8}{32}$ b) $\frac{10}{40}$ c) $\frac{9}{36}$ d) $\frac{12}{48}$ e) $\frac{15}{60}$

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Q1: a) 6 b) $\times 2$ $\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}$

Q2: a) 9 b) $\times 3$ $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$

Q3: a) 12 b) $\times 12$ $\frac{3}{4} \times \frac{4}{4} = \frac{12}{16}$

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Q1: a) $15, \quad \times 5 \quad \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$

Q1: b) $18, \quad \times 6 \quad \frac{3 \times 6}{4 \times 6} = \frac{18}{24}$

Q2: a) $\frac{6}{8}$ b) $\frac{9}{12}$ c) $\frac{12}{16}$ d) $\frac{15}{20}$ e) $\frac{18}{24}$

Q3: a) $\frac{24}{32}$ b) $\frac{30}{40}$ c) $\frac{27}{36}$ d) $\frac{36}{48}$ e) $\frac{45}{60}$

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Q1: a) 3 b) 4 c) 2 Q2 and Q3 Own answers

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Q1: a) DOUBLE the first number and divide by 2.

$4 \div 2 = 2$	$8 \div 2 = 4$	$12 \div 2 = 6$	$16 \div 2 = 8$
$8 \div 2 = 4$	$16 \div 2 = 8$	$24 \div 2 = 12$	$32 \div 2 = 16$

What pattern do you see? The answer is doubled.

b) Halve the first number and divide by 2.

$4 \div 2 = 2$	$8 \div 2 = 4$	$12 \div 2 = 6$	$16 \div 2 = 8$
$2 \div 2 = 1$	$4 \div 2 = 2$	$6 \div 2 = 3$	$8 \div 2 = 4$

What pattern do you see? The answer is halved

Q2: a) DOUBLE the first number and divide by 3.

$6 \div 3 = 2$	$9 \div 3 = 3$	$12 \div 3 = 4$	$15 \div 3 = 5$
$12 \div 3 = 4$	$18 \div 3 = 6$	$24 \div 3 = 8$	$30 \div 3 = 10$

What pattern do you see? The answer is doubled.

b) Halve the first number and divide by 3.

$6 \div 3 = 2$	$12 \div 3 = 4$	$18 \div 3 = 6$	$30 \div 3 = 10$
$3 \div 3 = 1$	$6 \div 3 = 2$	$9 \div 3 = 3$	$15 \div 3 = 5$

What pattern do you see? The answer is halved.

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Q1: a) $\frac{5}{10} \stackrel{\div 5}{=} \frac{1}{2}$ Common Factor is 5.

Q2: a) $\frac{4}{8} = \frac{1}{2}$ b) $\frac{3}{6} = \frac{1}{2}$ c) $\frac{2}{4} = \frac{1}{2}$ d) $= \frac{1}{2}$

Q3: The common factors are: a) $\div 4$ b) $\div 3$ c) $\div 2$ d) $\div 5$ e) $\div 10$ All fractions will reduce to $\frac{1}{2}$

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Q1: $\frac{4}{8} \stackrel{\div 4}{=} \frac{1}{2}$ Common Factor is 4.

Q2: a) $\frac{8}{16} = \frac{1}{2}$ b) $\frac{7}{14} = \frac{1}{2}$ c) $\frac{6}{12} = \frac{1}{2}$ d) $= \frac{1}{2}$

Q3: The common factors are: a) $\div 8$ b) $\div 7$ c) $\div 6$ d) $\div 12$ e) $\div 9$ All fractions will reduce to $\frac{1}{2}$

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Q1: a) $\frac{5}{15} \stackrel{\div 5}{=} \frac{1}{3}$ Common Factor is 5.

Q2: a) $\frac{4}{12} = \frac{1}{3}$ b) $\frac{3}{9} = \frac{1}{3}$ c) $\frac{2}{6} = \frac{1}{3}$ d) $= \frac{1}{3}$

Q3: The common factors are: a) $\div 4$ b) $\div 3$ c) $\div 2$ d) $\div 6$ e) $\div 10$ All fractions will reduce to $\frac{1}{3}$.

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Q1: $\frac{10}{15} \stackrel{\div 5}{=} \frac{2}{3}$ Common Factor is 5.

Q2: a) $\frac{8}{12} = \frac{2}{3}$ b) $\frac{6}{9} = \frac{2}{3}$ c) $\frac{4}{6} = \frac{2}{3}$ d) $= \frac{2}{3}$

Q3: The common factors are: a) $\div 4$ b) $\div 3$ c) $\div 2$ d) $\div 6$ e) $\div 10$ All fractions will reduce to $\frac{2}{3}$.

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Q1: a) $\frac{2}{8} \stackrel{\div 2}{=} \frac{1}{4}$ Common Factor is 2.
 Lowest term is $\frac{1}{4}$.

Q2: a) $\frac{4}{16} = \frac{1}{4}$ b) $\frac{3}{12} = \frac{1}{4}$ c) $\frac{2}{8} = \frac{1}{4}$ d) $\frac{1}{4}$

Q3: The common factors are: a) $\div 2$ b) $\div 3$ c) $\div 4$ d) $\div 5$ e) $\div 10$ All fractions will reduce to $\frac{1}{4}$.

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Q1: $\frac{6}{8} \stackrel{\div 2}{=} \frac{3}{4}$ a) Common Factor is 2.
 b) Lowest term is $\frac{3}{4}$.

Q2: a) $\frac{18}{24} = \frac{3}{4}$ b) $\frac{27}{36} = \frac{3}{4}$ c) $\frac{9}{12} = \frac{3}{4}$ d) $\frac{3}{4}$.

Q3: The common factors are: a) $\div 2$ b) $\div 3$ c) $\div 5$ d) $\div 6$ e) $\div 7$ All fractions will reduce to $\frac{3}{4}$.

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Q1: a) Circles $\frac{5}{20} = \frac{1}{4}$ b) Shaded Circles $\frac{2}{20} = \frac{1}{10}$ c) Triangles $\frac{8}{20} = \frac{2}{5}$ d) Shaded Triangles $\frac{6}{20} = \frac{3}{10}$

e) Squares $\frac{7}{20}$ f) Shaded Squares $\frac{4}{20} = \frac{1}{5}$

Q2: a) $\frac{9}{18} \stackrel{\div 9}{=} \frac{1}{2}$ b) $\frac{7}{14} \stackrel{\div 7}{=} \frac{1}{2}$ c) $\frac{6}{18} \stackrel{\div 6}{=} \frac{1}{3}$ d) $\frac{12}{18} \stackrel{\div 6}{=} \frac{2}{3}$

e) $\frac{5}{15} \stackrel{\div 5}{=} \frac{1}{3}$ f) $\frac{10}{15} \stackrel{\div 5}{=} \frac{2}{3}$ g) $\frac{5}{20} \stackrel{\div 5}{=} \frac{1}{4}$ h) $\frac{15}{20} \stackrel{\div 5}{=} \frac{3}{4}$

Q3: a) $\frac{10}{30} \stackrel{\div 10}{=} \frac{1}{3}$ b) $\frac{20}{30} \stackrel{\div 10}{=} \frac{2}{3}$ c) $\frac{5}{30} \stackrel{\div 5}{=} \frac{1}{6}$ d) $\frac{15}{30} \stackrel{\div 15}{=} \frac{1}{2}$

e) $\frac{25}{30} \stackrel{\div 5}{=} \frac{5}{6}$ f) $\frac{6}{30} \stackrel{\div 6}{=} \frac{1}{5}$ g) $\frac{12}{30} \stackrel{\div 6}{=} \frac{2}{5}$ h) $\frac{18}{30} \stackrel{\div 6}{=} \frac{3}{5}$

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Q1: a) Pentagons $\frac{10}{18} = \frac{5}{9}$ b) Shaded pentagons $\frac{5}{18}$ c) Hexagons $\frac{5}{18}$ d) Shaded hexagons $\frac{4}{18} = \frac{2}{9}$

d) Octagons $\frac{3}{18} = \frac{1}{6}$ f) Shaded Octagons $\frac{2}{18} = \frac{1}{9}$

Q2: a) $\frac{6}{24} \stackrel{\div 6}{=} \frac{1}{4}$ b) $\frac{2}{24} \stackrel{\div 2}{=} \frac{1}{12}$ c) $\frac{3}{24} \stackrel{\div 3}{=} \frac{1}{8}$ d) $\frac{8}{24} \stackrel{\div 8}{=} \frac{1}{3}$

e) $\frac{4}{24} \stackrel{\div 4}{=} \frac{1}{6}$ f) $\frac{12}{24} \stackrel{\div 12}{=} \frac{1}{2}$ g) $\frac{18}{24} \stackrel{\div 6}{=} \frac{3}{4}$ h) $\frac{16}{24} \stackrel{\div 8}{=} \frac{2}{3}$

Q3: a) $\frac{10}{50} \stackrel{\div 10}{=} \frac{1}{5}$ b) $\frac{20}{50} \stackrel{\div 10}{=} \frac{2}{5}$ c) $\frac{30}{50} \stackrel{\div 10}{=} \frac{3}{5}$ d) $\frac{40}{50} \stackrel{\div 10}{=} \frac{4}{5}$

e) $\frac{5}{50} \stackrel{\div 5}{=} \frac{1}{10}$ f) $\frac{15}{50} \stackrel{\div 5}{=} \frac{3}{10}$ g) $\frac{25}{50} \stackrel{\div 25}{=} \frac{1}{2}$ h) $\frac{35}{50} \stackrel{\div 5}{=} \frac{7}{10}$

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Q1: a) 1 hour = 60 minutes b) 1 day = 24 hours c) 1 minute = 60 seconds. Q2: $\frac{6}{24} \stackrel{\div 6}{=} \frac{1}{4}$

Q3: a) $\frac{12}{24} \stackrel{\div 12}{=} \frac{1}{2}$ b) $\frac{8}{24} \stackrel{\div 8}{=} \frac{1}{3}$ c) $\frac{16}{24} \stackrel{\div 8}{=} \frac{2}{3}$ d) $\frac{10}{24} \stackrel{\div 2}{=} \frac{5}{12}$

e) $\frac{20}{24} \stackrel{\div 4}{=} \frac{5}{6}$ f) $\frac{6}{24} \stackrel{\div 6}{=} \frac{1}{4}$

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Q1: $\frac{20}{60} \stackrel{\div 20}{=} \frac{1}{3}$ Q2: a) $\frac{30}{60} \stackrel{\div 30}{=} \frac{1}{2}$ b) $\frac{40}{60} \stackrel{\div 20}{=} \frac{2}{3}$ c) $\frac{45}{60} \stackrel{\div 15}{=} \frac{3}{4}$ d) $\frac{15}{60} \stackrel{\div 15}{=} \frac{1}{4}$

Q3: a) $\frac{12}{48} \stackrel{\div 12}{=} \frac{1}{4}$ b) $\frac{24}{48} \stackrel{\div 24}{=} \frac{1}{2}$ c) $\frac{10}{60} \stackrel{\div 10}{=} \frac{1}{6}$ d) $\frac{10}{120} \stackrel{\div 10}{=} \frac{1}{12}$

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Q1: a) Dotted $\frac{6}{12} = \frac{1}{2}$ b) Dotted Squares $\frac{4}{12} = \frac{1}{3}$ c) Dotted Trapezium $\frac{2}{12} = \frac{1}{6}$ d) Trapezium $\frac{4}{12} = \frac{1}{3}$

e) Squares $\frac{5}{12}$ f) Rhombus $\frac{3}{12} = \frac{1}{4}$

Q2: a) $\frac{4}{8}$ b) $\frac{4}{12}$ c) $\frac{10}{15}$ d) $\frac{5}{20}$ e) $\frac{18}{24}$ f) $\frac{9}{10}$ g) $\frac{6}{7}$ h) $\frac{3}{4}$ i) $\frac{2}{3}$ j) $\frac{9}{11}$ Q3: Own answers.

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Time in minutes is worked out using the following method.

a) $\frac{15}{60} \stackrel{\div 15}{=} \frac{1}{4}$ b) $\frac{30}{60} \stackrel{\div 30}{=} \frac{1}{2}$ c) $\frac{45}{60} \stackrel{\div 15}{=} \frac{3}{4}$ d) $\frac{20}{60} \stackrel{\div 20}{=} \frac{1}{3}$ e) $\frac{40}{60} \stackrel{\div 20}{=} \frac{2}{3}$

Q1: a) red $\frac{5}{28}$ b) green $\frac{8}{28} = \frac{4}{14}$

c) yellow $\frac{5}{28}$ d) orange $\frac{4}{28} = \frac{1}{7}$

e) purple $\frac{6}{28} = \frac{3}{14}$