Year 7 dividing fractions worksheet

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Name: _____ Date: _____

Question 1

Calculate ⅚ ÷ ⅔.

Answer: _____

Question 2

Mia is making friendship bracelets. She has 2½ metres of ribbon. Each bracelet needs ⅜ of a metre of ribbon. How many complete bracelets can she make?

Answer: _____

Question 3

Calculate ⅚ ÷ ¼. Give your answer as a decimal correct to 2 decimal places.

Answer: _____

Question 4

Calculate ⅞ ÷ ¼.

Answer: _____

Question 5

Calculate 2½ ÷ ¾.

Answer: _____

Question 6

Calculate ¾ ÷ ⅜. Give your answer as a simplified fraction or whole number.

Answer: _____

Question 7

Calculate 1⅗ ÷ ⅔.

Answer: _____

Question 8

Write the reciprocal of each number.

(a) 3/7

(b) 5

(c) 2½

Answer: _____

Question 9

Calculate:

(a) ½ ÷ ¼

(b) ⅗ ÷ 3

Answer: _____

Question 10

Calculate, giving each answer as a mixed number.

(a) ⅚ ÷ ⅔

(b) 3⅓ ÷ 1¼

Answer: _____

Year 7 dividing fractions: answers and worked solutions

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Question 1

Key idea: To divide by a fraction, keep the first fraction, change the division sign to multiplication, and flip the second fraction (use its reciprocal).

1. Keep ⅚, change ÷ to ×, flip ⅔ to 3/2:\ ⅚ × 3/2 2. Simplify before multiplying: the 6 and the 3 share a common factor of 3:\ (5)/(cancel6^(,2)) × (cancel3^(,1))/(2) = 5/2 × ½ = (5 × 1)/(2 × 2) 3. Multiply numerators and denominators:\ 5/4 4. Convert to a mixed number:\ 5/4 = 1¼

Answer: 1¼

Question 2

Key idea: Finding how many times a fraction fits into an amount means dividing the total by the amount per bracelet.

1. Write the mixed number as an improper fraction:\ 2½ = 5/2 2. Set up the division:\ 5/2 ÷ ⅜ 3. Apply keep, change, flip:\ 5/2 × 8/3 4. Simplify before multiplying: the 2 and the 8 share a common factor of 2:\ (5)/(cancel2^(,1)) × (cancel8^(,4))/(3) = (5 × 4)/(1 × 3) = 20/3 5. Convert to a mixed number: 20/3 = 6⅔, so Mia can make 6 complete bracelets.

Answer: 6 complete bracelets

Question 3

Key idea: Dividing by a fraction is the same as multiplying by its reciprocal.

1. Keep the first fraction: ⅚ 2. Change ÷ to × and flip the second fraction: ⅚ × 4/1 3. Multiply numerators and denominators: (5 × 4)/(6 × 1) = 20/6 4. Simplify: 20/6 = 10/3 5. Convert to a decimal: 10 ÷ 3 = 3.3333… ≈ 3.33

Answer: 3.33

Question 4

Key idea: To divide by a fraction, keep the first fraction, change the division sign to multiplication, and flip the second fraction.

1. Keep ⅞, change ÷ to ×, flip ¼ to 4/1:\ ⅞ × 4/1 2. Simplify before multiplying: the 8 and the 4 share a common factor of 4:\ (7)/(cancel8^(,2)) × (cancel4^(,1))/(1) = 7/2 × 1/1 3. Multiply numerators and denominators:\ (7 × 1)/(2 × 1) = 7/2 4. Convert to a mixed number:\ 7/2 = 3½

Answer: 3½

Question 5

Key idea: Convert any mixed numbers to improper fractions, then use keep, change, flip (multiply by the reciprocal).

1. Convert the mixed number: 2½ = 5/2 2. Keep the first fraction, change ÷ to ×, flip the second fraction: 5/2 ÷ ¾ = 5/2 × 4/3 3. Multiply numerators and denominators: (5 × 4)/(2 × 3) = 20/6 4. Simplify: 20/6 = 10/3 = 3⅓

Answer: 3⅓

Question 6

Key idea: To divide fractions, use keep, change, flip: keep the first fraction, change ÷ to ×, and flip (find the reciprocal of) the second fraction.

1. Write the division: ¾ ÷ ⅜ 2. Keep the first fraction, change ÷ to ×, flip the second: ¾ × 8/3 3. Multiply numerators and denominators: (3 × 8)/(4 × 3) = 24/12 4. Simplify by dividing numerator and denominator by 12: 24/12 = 2

Answer: 2

Question 7

Key idea: Convert the mixed number to an improper fraction, then use keep, change, flip.

1. Convert: 1⅗ = 8/5 2. Keep, change, flip: 8/5 ÷ ⅔ = 8/5 × 3/2 3. Multiply: (8 × 3)/(5 × 2) = 24/10 4. Simplify: 24/10 = 12/5 = 2⅖

Answer: 2⅖

Question 8

Answer: (a) 7/3 (b) ⅕ (c) ⅖

Question 9

Answer: (a) 2 (b) ⅕

Question 10

Answer: (a) 1¼ (⅚ × 3/2) (b) 2⅔ (10/3 × ⅘)