

Multiplication of Fractions

Warmup

1. Express the number of hens to total number of chickens as a ratio or rate in simplest form when the ratio of the number of hens to roosters is 200 to 250.

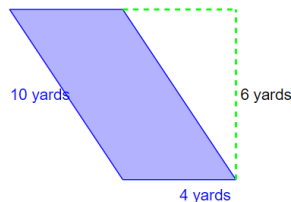
3. Write the answer in simplest form.

$$\frac{4}{5} - \frac{7}{9} =$$

2. Calculate the Area and Perimeter of the parallelogram.

Area= _____

Perimeter= _____



4. Write the mixed number $3\frac{4}{5}$ as an improper fraction.

- I. A Fraction of a Whole Number
- II. Multiplication of a Fraction and Whole Number
- III. Multiplication of a Fraction and a Fraction
- IV. Multiplication of a Fraction and Mixed Number
- V. Using the Area of a Triangle Formula

Homeschool



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Pre-Algebra and Geometry I

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www.HsHonorRoll.com

John ate $\frac{1}{4}$ of the cupcakes.
How many cupcakes did
John eat?



$\frac{1}{4}$ of the cupcakes = _____

If Alexa gave $\frac{2}{3}$ of the
cookies to her mom,
how many cookies
did she give away?



$\frac{2}{3}$ of the cookies = _____

of :

of means Multiply

$\frac{1}{3}$ of 3 $\frac{2}{3}$ of 3

$\frac{1}{3}$ of 9 = _____

$\frac{2}{3}$ of 9 = _____

$\frac{3}{3}$ of 9 = _____

$\frac{1}{4}$ of 12 = _____

$\frac{2}{4}$ of 12 = _____

$\frac{3}{4}$ of 12 = _____

$\frac{4}{4}$ of 12 = _____

5. Calculate

$\frac{1}{3}$ of 24 = _____

$\frac{2}{3}$ of 24 = _____

$\frac{3}{3}$ of 24 = _____

II. Multiplication of a Fraction and Whole Number

Multiplication of a Fraction and Whole Number:

Change the whole number to a fraction.

Multiply the numerators to get the numerator of the answer.

Multiply the denominators to get the denominator of the answer.

Simplify the final answer.

$$\frac{1}{3} \times 9 = \frac{1}{3} \times \frac{9}{1} = \frac{1 \times 9}{3 \times 1} = \frac{9}{3} = 3$$

Simplify the answer

Multiply: $\frac{3}{4} \times 16$

Multiply: $(\frac{3}{8})(11)$

7. Multiply: $(\frac{7}{10})(6)$

III. Multiplication of a Fraction and a Fraction

Multiplication of a Fraction and a Fraction:

Multiply the numerators to get the numerator of the answer.

Multiply the denominators to get the denominator of the answer.

Simplify the final answer.

$$\frac{7}{9} \times \frac{2}{3} = \frac{7 \times 2}{9 \times 3} = \frac{14}{27}$$

Simplify the answer

Multiply: $\frac{3}{7} \times \frac{5}{9}$

Multiply: $(\frac{1}{5})(\frac{1}{5})$

9. Multiply: $\frac{3}{6} \times \frac{1}{10}$

IV. Multiplication of a Fraction and Mixed Number

Multiplication of a Fraction and a Mixed Number:

Change the Mixed number to an improper fraction.

Multiply the numerators to get the numerator of the answer.

Multiply the denominators to get the denominator of the answer.

Simplify the final answer.

$$\frac{3}{4} \times 5\frac{1}{2} = \frac{3}{4} \times \frac{11}{2} = \frac{3 \times 11}{4 \times 2} = \frac{33}{8} = 4\frac{1}{8}$$

Simplify the answer

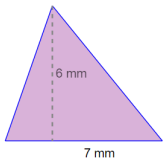
Multiply: $3\frac{2}{5} \times \frac{5}{6}$

Multiply: $(\frac{7}{10})(3\frac{6}{10})$

11. Multiply: $1\frac{1}{6} \times 2\frac{3}{10}$

V. Using the Area of a Triangle Formula

Area of a Triangle:



*The base and height
form a _____ angle*

$$\text{Area of a Triangle} = \frac{1}{2}bh \quad b = \text{base, and } h = \text{height}$$

Find the area of a triangle with base=7 and height = 6

$$A = \frac{1}{2}bh$$

Substitute the known values into the formula

$$A = \frac{1}{2}(7)(6)$$

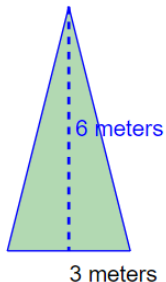
The commutative property of Multiplication allows us to multiply (7)(6) before multiplying by 7.

$$A = \frac{1}{2}(42)$$

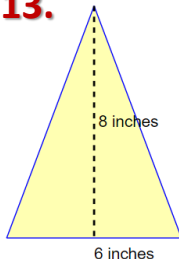
Multiply $\frac{1}{2}$ *times* (42)

$$A = 21 \text{ mm}^2 \text{ or } 21 \text{ square mm}$$

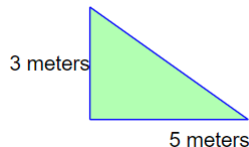
Find the Area of each triangle



13.



14.



[illegible]