

Rational Numbers in Decimal Form



Goal: Write fractions as decimals and decimals as fractions.

Vocabulary	
Rational number:	
Terminating decim	al:
Repeating decimal	

EXAMPLE 1 Writing Fractions as Decimals

To write a fraction as a decimal, divide the numerator by the denominator.

a.
$$\frac{8}{11} = 11)8.0000...$$

80

77

30

b.
$$\frac{9}{25} = 25)9.00$$

$$150$$

$$0$$

Answer: The quotient

decimal. To indicate this, place a bar over the repeating digits:

Answer: The remainder is zero.

So,
$$\frac{9}{25} = \frac{1}{25}$$
 is a

decimal.

EXAMPLE 2 Writing Mixed Numbers as Decimals

Bowling The table lists the weights of 5 bowling balls. Write the weights

				110	weight2	
Weight (pounds)	$12\frac{3}{16}$	12 1 /5	$12\frac{2}{11}$	123	121	7
Solution				25	8	1

$$12\frac{3}{16} = 12 + \boxed{ } = 12 + \boxed{ } = \boxed{ }$$

$$12\frac{1}{5} = 12 + \boxed{ } = 12 + \boxed{ } = \boxed{ }$$

$$12\frac{2}{11} = 12 + \boxed{ } = 12 + \boxed{ } = \boxed{ }$$

$$12\frac{3}{25} = 12 + \boxed{ } = 12 + \boxed{ } = \boxed{ }$$

$$12\frac{1}{8} = 12 + \boxed{ } = 12 + \boxed{ } = \boxed{ }$$

Answer In decimal form, the weights are pounds, pounds, pounds.	nds,

Guided Practice Write the fraction or mixed number as a decimal.

1 . $\frac{9}{20}$	2. ± 3	3 . 2/5
4. 2 $\frac{9}{11}$	5 5 7 8	6 : 6 ⁴ / ₅

Think: What is the place value of the decimal's last digit?

EXAMPLE 3 Writing Terminating Decimals as Fractions

Write the decimal as a fraction or mixed number in simplest form.

Solution

Guided Practice Write the decimal as a fraction or mixed number in simplest from.

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8. 0.76 91.15 10. -5.25	7. 0.9	8. 0.76	Statement of the statem	
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