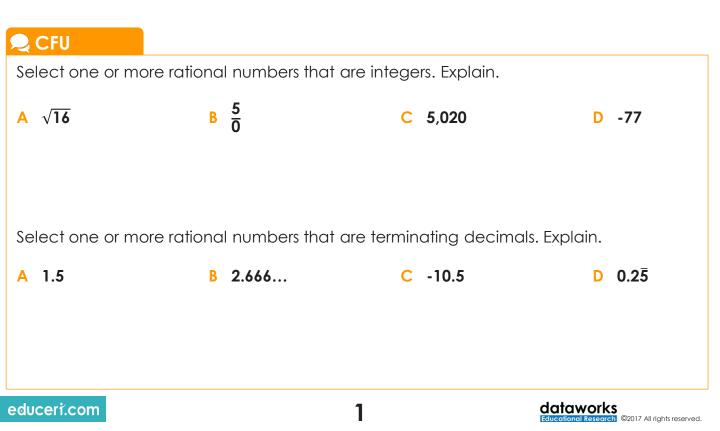
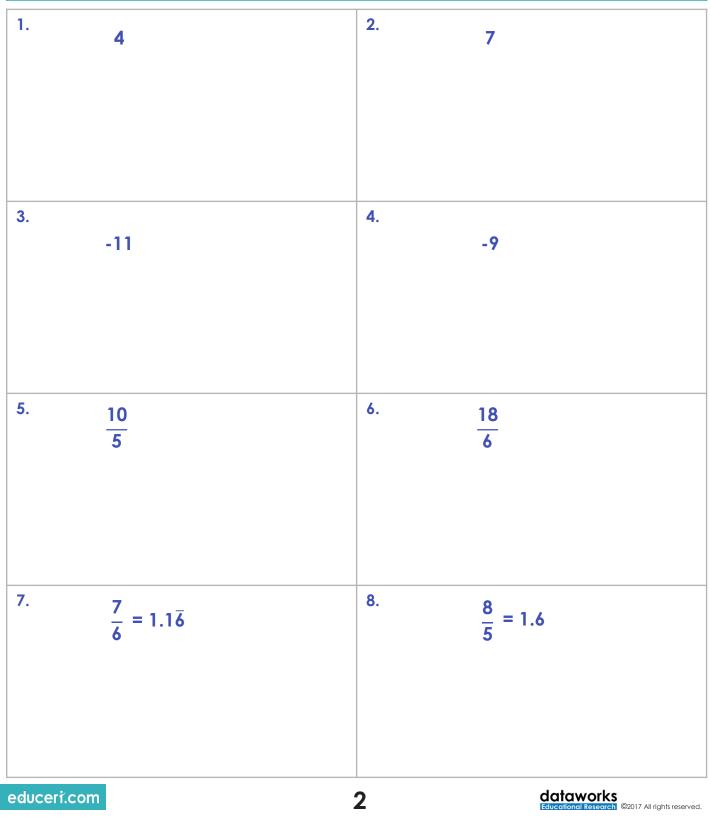
A rational number is any number that can be written as a ratio or fraction.

An **irrational number** cannot be written as a **ratio or fraction** because they are non-terminating, non-repeating decimals.

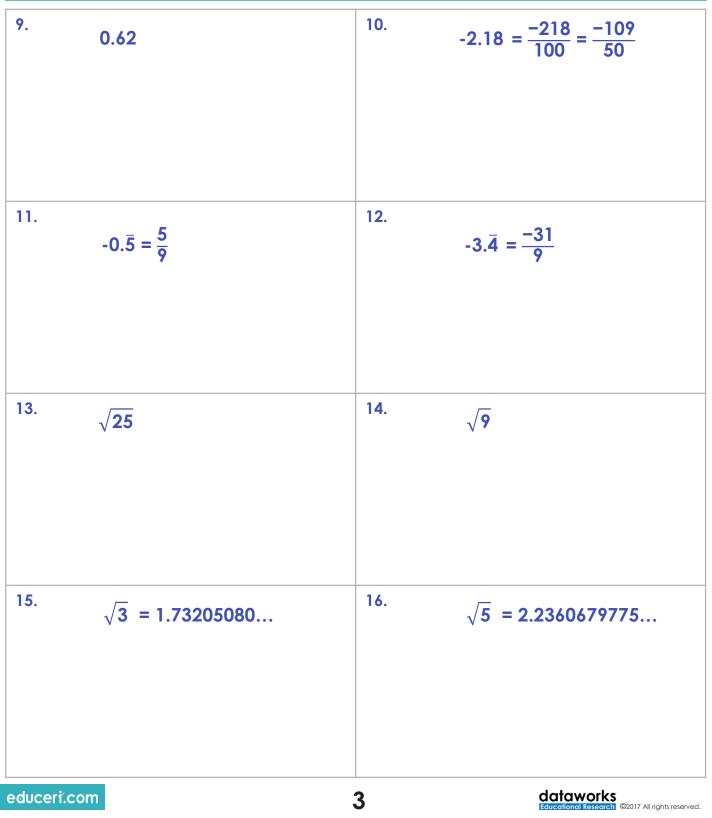
	Rational Numbers		Irrational Numbers
Integers (not fractions)	Terminating Decimals ₃	Repeating Decimals	(non-repeating, non-terminating decimals)
$3 = \frac{3}{1}$	$1.4 = \frac{7}{5}$	$0.\overline{3} = \frac{1}{3}$	$\sqrt{2} = 1.4142$
$\sqrt{4} = \frac{2}{1}$	$-1.5 = \frac{-3}{2}$	$0.\overline{123} = \frac{41}{333}$	π = 3.14159
$5^2 = \frac{25}{1}$	$3.79 = \frac{379}{100}$	$-0.\overline{18} = \frac{-2}{11}$	
$0 = \frac{0}{1}$ -12 = $\frac{-12}{1}$	All terminating decimals are rational	All repeating decimals are rational	



- 1 If possible, write the number as a fraction in simplest form.
- 2 Classify the number as **rational** or **irrational**. If it is rational, classify it as an **integer**, a **terminating decimal**, or a **repeating decimal**.
- 3 Interpret the answer. (" ____ is ____ because...")



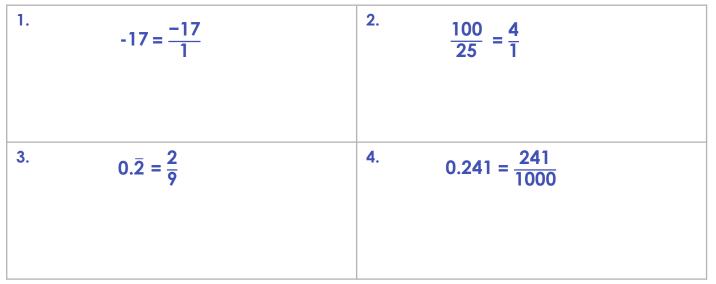
- 1 If possible, write the number as a fraction in simplest form.
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Closure

Skill Closure

- 1 If possible, write the number as a fraction in simplest form.
- 2 Classify the number as rational or irrational. If it is rational, classify it as an integer, a terminating decimal, or a repeating decimal.
- 3 Interpret the answer. (" ____ is ____ because...")

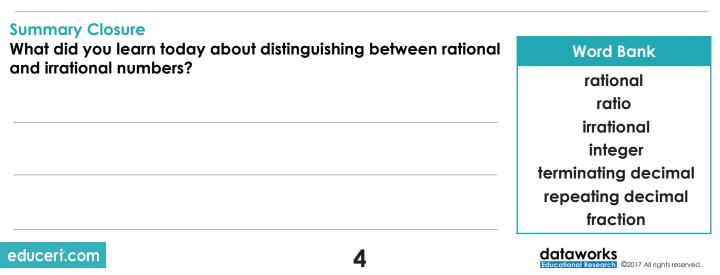


Concept Closure

Read and solve the problem.

Quinton classified $\sqrt{15}$ as a rational number and an integer. Is he correct? Explain.

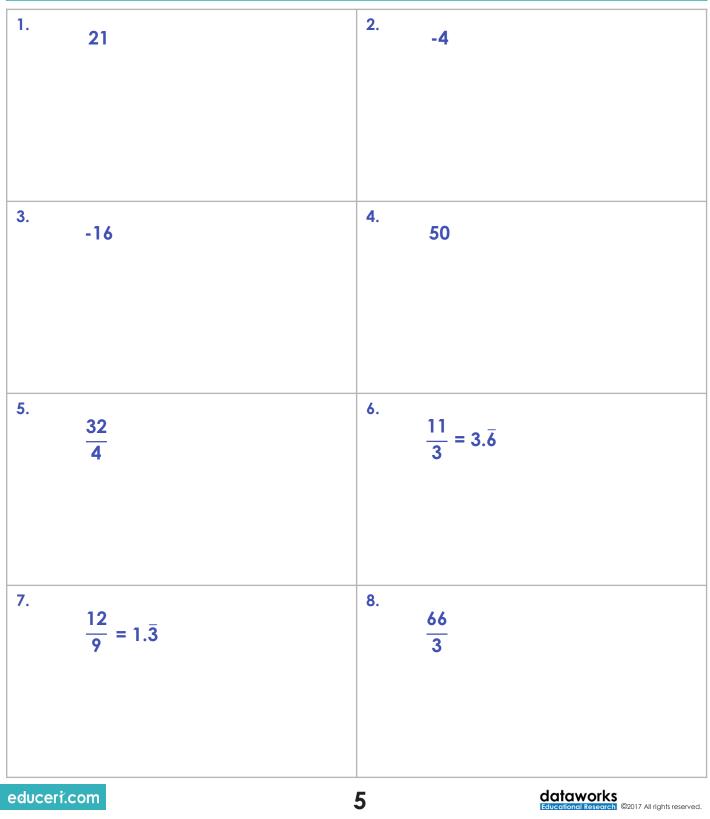
 $\sqrt{15} = 3.87298334621...$



Δ

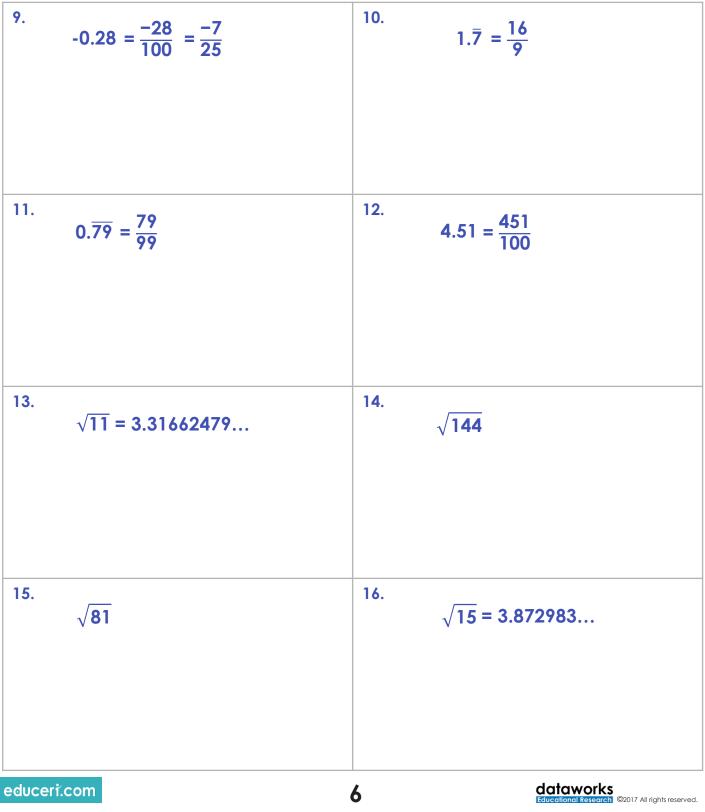
Independent Practice

- 1 If possible, write the number as a fraction in simplest form.
- 2 Classify the number as **rational** or **irrational**. If it is rational, classify it as an **integer**, a **terminating decimal**, or a **repeating decimal**.
- 3 Interpret the answer. (" ____ is ____ because...")



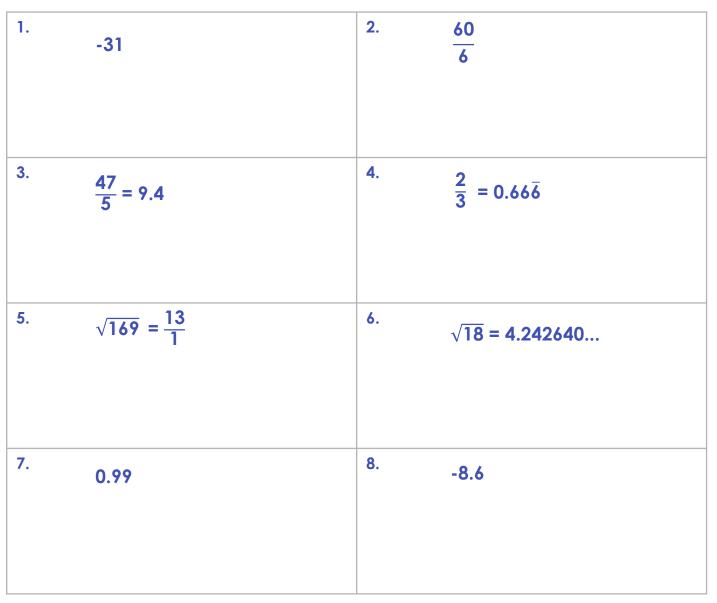
Independent Practice

- 1 If possible, write the number as a fraction in simplest form.
- 2 Classify the number as rational or irrational. If it is rational, classify it as an integer, a terminating decimal, or a repeating decimal.
- **3** Interpret the answer. (" is because...")



Classify numbers as rational or irrational.

If rational, classify as integer, terminating decimal, or repeating decimal.

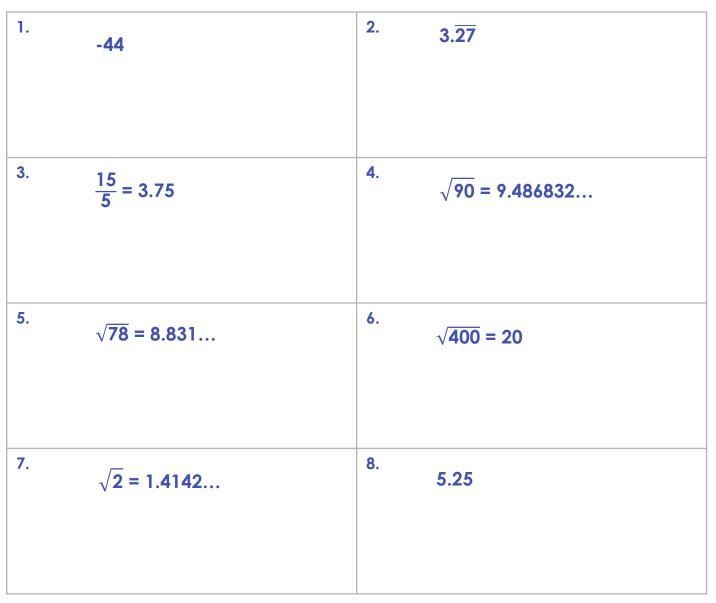


Choose Yes or No to indicate whether each statement about rational numbers is true or false.

All rational numbers can be written as a ratio of two integers.	O Yes	O No
All rational numbers are integers.	O Yes	O No
All whole numbers are rational numbers.	O Yes	O No
The number -37.5 is a rational number.	O Yes	O No

Classify numbers as rational or irrational.

If rational, classify as integer, terminating decimal, or repeating decimal.



Choose Yes or No to indicate whether each statement about rational numbers is true or false.

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The number $\sqrt{2}$ is rational.		O Yes O No
All repeating decimals are rational.		O Yes O No
All fractions are rational numbers.		O Yes O No
All integers are rational numbers.		O Yes O No

Classify numbers as rational or irrational.

If rational, classify as integer, terminating decimal, or repeating decimal.

1.
$$\sqrt{144} = 12$$
2. $\sqrt{46} = 6.7823...$ 3.334. $\frac{33}{10} = 3.3$ 5. $\frac{100}{25} = 4$ 6. $\sqrt{101} = 10.0498...$ 7.3.14159...8. $3.\overline{14}$

Choose Yes or No to indicate whether each statement about irrational numbers is true or false.

Irrational numbers cannot be written as a ratio of two integers.	O Yes	O No
All irrational numbers are fractions.	O Yes	O No
All numbers are irrational numbers.	O Yes	O No
The number $\sqrt{100}$ is an irrational number.	O Yes	O No