

1. Express the repeating decimal $0.\overline{3}$ as a fraction.

- (A) $\frac{1}{3}$
(B) $\frac{1}{9}$
(C) $\frac{3}{100}$
(D) $\frac{3}{10}$

2. Classify each number as rational or irrational.

$9.\overline{68}$ $2.010010001\dots$

$\sqrt{64}$ $-\frac{51}{5}$ $\sqrt{6}$

Rational	Irrational

3. How would you classify the number 125?

- (A) perfect square
(B) perfect cube
(C) both a perfect square and a perfect cube
(D) neither a perfect square nor a perfect cube

4. Ron asked 18 classmates whether they prefer granola bars over muffins. He used a calculator to compare the number of classmates who said yes to the total number he surveyed. The calculator showed the result as 0.66666667.

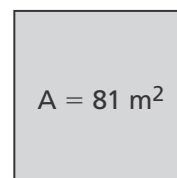
Part A

Write this number as a fraction.

Part B

How many students prefer granola bars over muffins?

5. What is the side length, s , of the square?



6. Solve the equation $x^2 = 10$.

- (A) $x = \pm\sqrt{10}$
(B) $x = \sqrt{10}$
(C) $x = \pm 5$
(D) $x = 5$

7. A cube-shaped box has a volume of 64 cubic inches. If the box is packed full of cubes with edge lengths of 1 inch, how many cubes can fit along one side of the box?

(A) 2 cubes
(B) 4 cubes
(C) 8 cubes
(D) 16 cubes

8. Evaluate the expression for $x = 2$ and $y = 4$.

$$16x^0 + 2x^2 \cdot y^{-1}$$

9. Fill in the blanks with the provided expressions to match each expression with its equivalent.

$$x \quad x^9 \quad x^4 \quad x^{-2}$$

$$\frac{1}{x^2}: \underline{\hspace{2cm}}$$

$$x^4 \div x^3: \underline{\hspace{2cm}}$$

$$(x^2)^2: \underline{\hspace{2cm}}$$

$$x^3 \cdot x^3 \cdot x^3: \underline{\hspace{2cm}}$$

10. Which expression is equivalent to $\frac{(5 \times 10^{-3}) + (6 \times 10^{-3})}{2.2 \times 10^4}$?

(A) 5×10^{-7}
(B) 5×10^{-1}
(C) 5×10^{-10}
(D) 5×10^7

11. Rewrite 5^{-15} using a positive exponent.

12. In 1902, the yearly attendance at a major league baseball park was 3.4×10^5 people. One hundred years later, the yearly attendance was 1.7×10^6 fans. How many times greater was the attendance in 2002 than in 1902?

13. Find $(9.3 \times 10^6) + (1.8 \times 10^4)$. Express your answer in scientific notation.