Do Now

Write the percent as a decimal.

7. 78%   **8.** 55%   **9.** 18.5%

10. 57.4%   **11.** 33%   **12.** 9%

13. 47.63%   **14.** 91.25%   **15.** 166%

16. 217%   **17.** 0.06%   **18.** 0.034%

Write the decimal as a percent.

19. 0.74   **20.** 0.52   **21.** 0.89

7. 0.78	**8.** 0.55
9. 0.185	**10.** 0.574
11. 0.33	**12.** 0.09
13. 0.4763	**14.** 0.9125
15. 1.66	**16.** 2.17
17. 0.0006	**18.** 0.00034
19. 74%	**20.** 52%
21. 89%	**22.** 76.8%
23. 99%	
24. 49%	

Write the percent as a decimal.

1. 35%   2. 160%   3. 74.8%   4. 0.3%

0.35   1.6   0.748   0.003

Write the decimal as a percent.

5. 1.23   6. 0.49   7. 0.024   8. 0.881

123%   49%   2.4%   88.1%

Write the percent as a fraction in simplest form and as a decimal.

9. 48%   10. 15.5%   11. 84.95%

$\frac{12}{25}$; 0.48 $\frac{31}{200}$; 0.155 $\frac{1699}{2000}$; 0.8495

12. People with severe hearing loss were given a sentence and word recognition test six months after they got implants in their ears. The patients scored an average of 82% on the test. Write this percent as a decimal.

0.82

Essential Question How can you order numbers that are written as fractions, decimals, and percents?

2 **ACTIVITY: Ordering Numbers**

Work with a partner to order the following numbers.

$\dfrac{1}{8}$ 11% $\dfrac{3}{20}$ 0.172   0.32   43%   7%   0.7 $\dfrac{5}{6}$

When comparing and ordering fractions, decimals, and percents, write the numbers as all fractions, all decimals, or all percents.

EXAMPLE **1** **Comparing Fractions, Decimals, and Percents**

a. **Which is greater, $\frac{3}{20}$ or 16%?**

$\times 5$

Study Tip

It is usually easier to order decimals or percents than to order fractions.

Write $\frac{3}{20}$ as a percent: $\frac{3}{20} = \frac{15}{100} = 15\%$

$\times 5$

∴ 15% is less than 16%. So, 16% is the greater number.

b. **Which is greater, 79% or 0.08?**

Write 79% as a decimal: $79\% = 79.\% = 0.79$

∴ 0.79 is greater than 0.08. So, 79% is the greater number.

1. Which is greater, 25% or $\frac{7}{25}$?   2. Which is greater, 0.49 or 94%?

2 **Real-Life Application**

You, your sister, and a friend each take the same number of shots at a soccer goal. You make 72% of your shots, your sister makes $\frac{19}{25}$ of her shots, and your friend makes 0.67 of his shots. Who made the fewest shots?
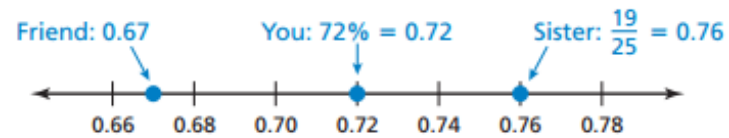
Write 72% and $\dfrac{19}{25}$ as decimals.

$\times 4$

You: $72\% = 72.\% = 0.72$ **Sister:** $\dfrac{19}{25} = \dfrac{76}{100} = 0.76$

$\times 4$

Graph the decimals on a number line.

Friend: 0.67   You: 72% = 0.72   Sister: $\dfrac{19}{25}$ = 0.76

0.66   0.68   0.70   0.72   0.74   0.76   0.78

0.67 is the least number. So, your friend made the fewest shots.

● *On Your Own*

ly

3. You make 75% of your shots, your sister makes $\frac{13}{20}$ of her shots, and your friend makes 0.7 of his shots. Who made the most shots?

EXAMPLE 3 — Real-Life Application

Washington: $\frac{1}{50}$ Michigan: 0.03

New York: 6%

California: 0.12

Ohio: $\frac{1}{25}$
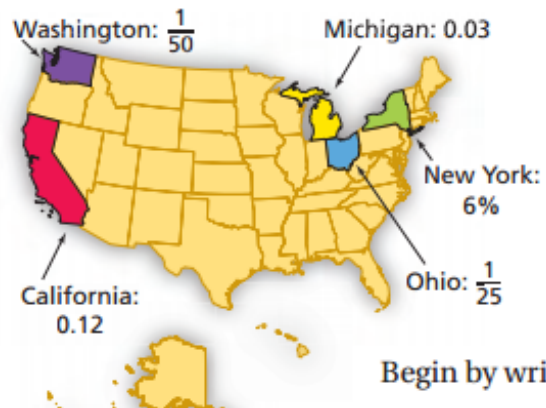
The map shows the portions of the U.S. population that live in five states.

List the five states in order by population from least to greatest.

Begin by writing each portion as a fraction, a decimal, and a percent.

Tell which number is greater.

① **4.** 0.9, 95%   **5.** 20%, 0.02   **6.** $\frac{37}{50}$, 37%   **7.** 50%, $\frac{13}{25}$

8. 0.086, 86%   **9.** 76%, 0.67   **10.** 60%, $\frac{5}{8}$ **11.** 0.12, 1.2%

12. 17%, $\frac{4}{25}$ **13.** 140%, 0.14   **14.** $\frac{1}{3}$, 30%   **15.** 80%, $\frac{7}{9}$

Homework

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