Chapter Review/Test

Concepts and Skills

Write each number in \( \frac{m}{n} \) form where \( m \) and \( n \) are integers with \( n \neq 0 \). Simplify your answers.

1. 20.75
   \[ \frac{83}{4} \]

2. -0.48
   \[ -\frac{12}{25} \]

3. \( \frac{4}{3} \)
   \[ \frac{58}{13} \]

4. \( \frac{39}{56} \)
   \[ -\frac{39}{56} \] \[ \frac{39}{56} \]

5. 1.34
   \[ \frac{67}{50} \]

6. 60%
   \[ \frac{3}{5} \]
For each pair of numbers, find the absolute value of each number. Then, determine which number is farther from 0 on the number line.

7. \(-16\) and \(-18\)
   \[
   |\ -16\ | = 16 \\
   |\ -18\ | = 18
   \]

8. \(-\frac{15}{4}\) and \(\frac{18}{7}\)
   \[
   |\ -\frac{15}{4}\ | = \frac{15}{4} \\
   |\ \frac{18}{7}\ | = \frac{18}{7}
   \]

9. 2.36 and \(-2.7\)
   \[
   |\ 2.36\ | = 2.36 \\
   |\ -2.7\ | = 2.7
   \]

10. \(\frac{31}{3}\) and \(\frac{40}{6}\)
    \[
    |\ \frac{31}{3}\ | = \frac{31}{3} \\
    |\ \frac{40}{6}\ | = \frac{40}{6}
    \]
Using a calculator, write each rational number as a decimal. Use the bar notation if the rational number is a repeating decimal.

11. \( \frac{7}{56} = 0.125 \)

12. \( \frac{13}{20} = 0.65 \)

13. \( \frac{100}{11} = 9.09 \)

14. \( -\frac{5}{12} = -0.41\bar{6} \)

15. \( -\frac{9}{55} = -2.1\bar{6}3 \)

16. 47% = 0.47
**Problem Solving**

Use the irrational numbers below for questions **17** to **20**.

\[ \sqrt{31}, -\sqrt{112}, \frac{3}{\sqrt{142}}, -\frac{1}{4}\pi^3 \]

\[ \sqrt[3]{31} > \sqrt[3]{142} > -\frac{1}{4}\pi^3 > -\sqrt[3]{112} \]

5.567... 5.2171... -7.7515... -10.58

**20** Order the irrational numbers from greatest to least using the symbol >.
Use the real numbers below for questions 21 to 24.

\[-12\frac{3}{8}, \frac{90}{7}, -\sqrt{49}, \sqrt{164}, -8.207\]

21. Find the absolute value of each real number in decimal form, correct to three decimal places.

\[-12.375 < -8.207 < -7 < \sqrt{164} < \frac{90}{7}\]

23. Order the numbers from least to greatest using the symbol <.
any # that can be written as a fraction

- can be + or -
- can be any terminating or repeating decimal

\[ \frac{1}{3}, -21, 0.1\overline{2}, \frac{27}{9}, 7, \pi, \sqrt{2} \]

*irrational numbers*