

## Epsilon Placement Pre/Post Test

Solve.

1.  $\frac{1}{2}$  of 24 = 12

2.  $\frac{2}{3}$  of 18 = 12

3.  $\frac{7}{8}$  of 64 = 56

Fill in the missing numbers in the numerators or denominators to make equivalent fractions.

4.  $\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$

5.  $\frac{9}{10} = \frac{18}{20} = \frac{27}{30} = \frac{36}{40}$

Compare the fractions and write the correct symbol in the oval.

6.  $\frac{5}{7} > \frac{3}{5}$

7.  $\frac{4}{8} = \frac{3}{6}$

8.  $\frac{4}{8} < \frac{2}{3}$

Solve.

$$9. \quad \frac{3}{9} + \frac{5}{9} = \boxed{\frac{8}{9}}$$

$$10. \quad \frac{1}{2} + \frac{1}{4} + \frac{7}{8} = \boxed{1\frac{5}{8}}$$

$$11. \quad \frac{4}{5} - \frac{1}{3} = \boxed{\frac{7}{15}}$$

$$12. \quad \frac{1}{3} \div \frac{1}{5} = \boxed{\frac{5}{3} = 1\frac{2}{3}}$$

$$13. \quad 3\frac{1}{3} \div \frac{5}{18} =$$

$$\frac{\cancel{10}^2}{\cancel{3}} \times \frac{\cancel{18}^6}{5} = 12$$

$$14. \quad 3\frac{4}{5} \div 2\frac{7}{25} =$$

$$\frac{\cancel{19}^5}{\cancel{5}} \times \frac{\cancel{25}^5}{\cancel{57}_3} = \frac{5}{3} = 1\frac{2}{3}$$

Solve.

$$15. \quad \begin{array}{r} 7\frac{1}{4} \\ -5\frac{3}{4} \\ \hline \end{array}$$

$$7\frac{1}{4} - 5\frac{3}{4} = 6\frac{5}{4} - 5\frac{3}{4} = 1\frac{2}{4} = 1\frac{1}{2}$$

$$16. \quad \begin{array}{r} 9\frac{2}{3} \\ +6\frac{5}{9} \\ \hline \end{array}$$

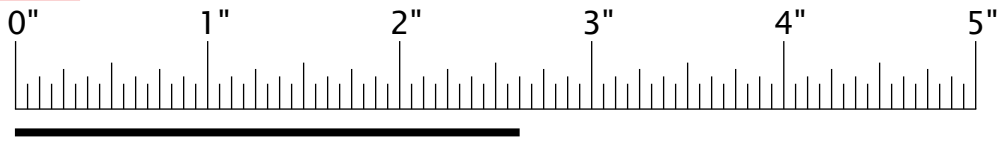
$$\begin{aligned} 9\frac{2}{3} + 6\frac{5}{9} &= 9\frac{18}{27} + 6\frac{15}{27} \\ &= 15\frac{33}{27} = 16\frac{6}{27} = 16\frac{2}{9} \end{aligned}$$

$$17. \quad \begin{array}{r} 5\frac{1}{5} \\ -2\frac{5}{6} \\ \hline \end{array}$$

$$\begin{aligned} 5\frac{1}{5} - 2\frac{5}{6} &= 5\frac{6}{30} - 2\frac{25}{30} \\ &= 4\frac{36}{30} - 2\frac{25}{30} = 2\frac{11}{30} \end{aligned}$$

Write the length of the line.

18.  $2\frac{5}{8}$  in



Solve for the unknown and check your work.

19.  $7X + 9 = 44$

$$\begin{aligned} 7X &= 35 \\ \frac{1}{7} \cdot 7X &= 35 \cdot \frac{1}{7} \\ X &= 5 \end{aligned}$$

20. Check for #19

$$\begin{aligned} 7(5) + 9 &= 44 \\ 35 + 9 &= 44 \\ 44 &= 44 \end{aligned}$$

21.  $\frac{3}{8}A - 8 = 13$

$$\begin{aligned} \frac{3}{8}A &= 21 \\ \frac{8}{3} \cdot \frac{3}{8}A &= 21 \cdot \frac{8}{3} \\ A &= \frac{168}{3} = 56 \end{aligned}$$

22. Check for #21

$$\begin{aligned} \frac{3}{8}(56) - 8 &= 13 \\ 21 - 8 &= 13 \\ 13 &= 13 \end{aligned}$$

23.  $\frac{5}{6}G + \frac{1}{6} = \frac{5}{12}$

$$\begin{aligned} \frac{5}{6}G &= \frac{3}{12} = \frac{1}{4} \\ \frac{6}{5} \cdot \frac{5}{6}G &= \frac{1}{4} \cdot \frac{6}{5} \\ G &= \frac{6}{20} = \frac{3}{10} \end{aligned}$$

24. Check for #23

$$\begin{aligned} \frac{5}{6} \cdot \frac{3}{10} + \frac{1}{6} &= \frac{5}{12} \\ \frac{15}{60} + \frac{1}{6} &= \frac{5}{12} \\ \frac{1}{4} + \frac{1}{6} &= \frac{5}{12} \\ \frac{5}{12} &= \frac{5}{12} \end{aligned}$$

Solve.

25.  $\frac{5}{8} \times \frac{1}{3} \times \frac{3}{5} = \underline{\hspace{2cm}}$

$$\frac{\cancel{5}}{8} \times \frac{1}{\cancel{3}} \times \frac{\cancel{3}}{\cancel{5}} = \frac{1}{8}$$

26.  $\frac{4}{5} \times 2\frac{3}{4} \times 3\frac{1}{3} = \underline{\hspace{2cm}}$

$$\frac{\cancel{4}}{5} \times \frac{11}{\cancel{4}} \times \frac{\cancel{10}^2}{3} = \frac{22}{3} = 7\frac{1}{3}$$

Write each fraction in hundredths. Then write it as a decimal and as a percent.

$$27. \quad \frac{4}{5} = \frac{80}{100} = \underline{0.80} = \underline{80} \%$$

$$28. \quad \frac{1}{4} = \frac{25}{100} = \underline{0.25} = \underline{25} \%$$

29. What is the GCF of 15 and 45?

$15: \underline{3}, \underline{5}, \underline{15}$ $45: \underline{3}, \underline{5}, \underline{9}, \underline{15}, 45$ GCF = 15
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30. What are the prime factors of 56?

$$2 \times 2 \times 2 \times 7$$

31. Change  $7\frac{2}{3}$  to an improper fraction.

$7\frac{2}{3} = \frac{23}{3}$
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32. Is 498 divisible by 9?

**no**

$\frac{22}{7} (21^2) = \frac{22}{\cancel{7}} \cdot \frac{441}{1}$
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$= \frac{1386}{1}$
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33. What is the approximate area of a circle with a radius of 21 feet?

$= 1,386 \text{ sq ft}$
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34. What is the approximate circumference of a circle with a radius of 21 feet?

$\frac{2}{1} \cdot \frac{22}{\cancel{7}} \cdot \frac{21}{1} = 132 \text{ ft}$
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