

4-2

Skills Practice

Simplifying Fractions

Replace each ● with a number so the fractions are equivalent.

1. $\frac{1}{5} = \frac{\bullet}{35}$

2. $\frac{\bullet}{15} = \frac{2}{5}$

3. $\frac{1}{6} = \frac{\bullet}{24}$

4. $\frac{10}{15} = \frac{2}{\bullet}$

5. $\frac{4}{\bullet} = \frac{20}{45}$

6. $\frac{1}{\bullet} = \frac{4}{16}$

7. $\frac{1}{3} = \frac{27}{\bullet}$

8. $\frac{\bullet}{7} = \frac{8}{28}$

9. $\frac{18}{24} = \frac{\bullet}{4}$

Write each fraction in simplest form. If the fraction is already in simplest form, write *simplest form*.

10. $\frac{1}{2}$

11. $\frac{8}{10}$

12. $\frac{20}{60}$

13. $\frac{6}{15}$

14. $\frac{15}{60}$

15. $\frac{7}{8}$

16. $\frac{27}{81}$

17. $\frac{7}{12}$

18. $\frac{28}{36}$

19. $\frac{90}{100}$

20. $\frac{8}{21}$

21. $\frac{14}{35}$

22. $\frac{23}{46}$

23. $\frac{9}{13}$

24. $\frac{12}{27}$

25. $\frac{4}{12}$

26. $\frac{75}{100}$

27. $\frac{60}{110}$

28. $\frac{10}{25}$

29. $\frac{15}{19}$

30. $\frac{20}{28}$

31. $\frac{49}{56}$

32. $\frac{49}{70}$

33. $\frac{24}{64}$

4-2 Study Guide and Intervention

Simplifying Fractions

Fractions that have the same value are **equivalent fractions**. To find equivalent fractions, you can multiply or divide the numerator and denominator by the same nonzero number.

Example 1 Replace the ● with a number so that $\frac{1}{2} = \frac{\bullet}{10}$.

Since $2 \times 5 = 10$, multiply the numerator and denominator by 5.

$$\frac{1}{2} = \frac{\bullet}{10}$$

$$\frac{1 \times 5}{2 \times 5} = \frac{5}{10}$$

When the GCF of the numerator and denominator is 1, the fraction is in simplest form. To write a fraction in simplest form, you can divide the numerator and denominator by the GCF.

Example 2 Write $\frac{12}{30}$ in simplest form.

The GCF of 12 and 30 is 6.

$$\frac{12}{30} = \frac{2}{5}$$

Divide the numerator and denominator by the GCF, 6.

The GCF of 2 and 5 is 1, so $\frac{2}{5}$ is in simplest form.

Exercises

Replace each ● with a number so the fractions are equivalent.

1. $\frac{1}{5} = \frac{\bullet}{15}$

2. $\frac{12}{18} = \frac{2}{\bullet}$

3. $\frac{\bullet}{14} = \frac{27}{42}$

Write each fraction in simplest form. If the fraction is already in simplest form, write *simplest form*.

4. $\frac{6}{30}$

5. $\frac{2}{3}$

6. $\frac{6}{8}$

7. $\frac{21}{28}$

8. $\frac{15}{30}$

9. $\frac{7}{10}$

4-2

Practice

Simplifying Fractions

Replace each ● with a number so the fractions are equivalent.

1. $\frac{1}{3} = \frac{\bullet}{9}$

2. $\frac{1}{4} = \frac{\bullet}{16}$

3. $\frac{\bullet}{2} = \frac{8}{16}$

4. $\frac{\bullet}{8} = \frac{9}{24}$

5. $\frac{1}{2} = \frac{16}{\bullet}$

6. $\frac{12}{21} = \frac{4}{\bullet}$

7. $\frac{30}{36} = \frac{\bullet}{6}$

8. $\frac{28}{42} = \frac{\bullet}{3}$

Write each fraction in simplest form. If the fraction is already in simplest form, write *simplest form*.

9. $\frac{7}{28}$

10. $\frac{9}{15}$

11. $\frac{10}{42}$

12. $\frac{12}{42}$

13. $\frac{17}{28}$

14. $\frac{24}{64}$

Write two fractions that are equivalent to the given fraction.

15. $\frac{3}{10}$

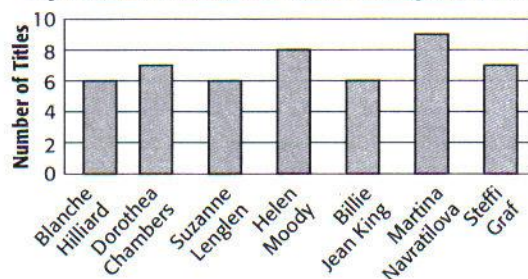
16. $\frac{7}{13}$

17. $\frac{15}{33}$

18. **ANIMALS** In Ms Reyes' class, 4 out of the 30 students had guinea pigs as pets. Express this fraction in simplest form.

19. **ANALYZE GRAPHS** The bar graph shows the number of titles held by the top seven women Wimbledon tennis champions. In simplest form, what fraction of the number of titles is held by Steffi Graf?

Top Women Wimbledon Tennis Champions (2005)



Source: United States Tennis Association