7-1 Percents and Fractions - Practice and Problem Solving

Write each percent as a fraction or mixed number in simplest form.

13. 47%

$$47\% = \frac{47}{100}$$

15. 20%

$$20\% = \frac{20}{100}$$

$$= \frac{\overset{1}{\cancel{20}}}{\underset{5}{\cancel{100}}}$$

$$= \frac{1}{5}$$

17. 280%

$$280\% = \frac{280}{100}$$

$$= 2\frac{\overset{4}{\cancel{80}}}{\underset{5}{\cancel{100}}}$$

$$= 2\frac{4}{5}$$

19. **SOCCER** In a recent season, the Dallas Burn won or tied about 54% of their games. What fraction of their games did they win or tie?

$$54\% = \frac{\overset{27}{\cancel{54}}}{\underset{50}{\cancel{100}}}$$

$$= \frac{27}{50}$$

Write each fraction or mixed number as a percent.

21. $\dfrac{7}{20}$

$$\dfrac{7}{20} = \dfrac{7 \times 5}{20 \times 5}$$
$$= \dfrac{35}{100}$$
$$= 35\%$$

23. $1\dfrac{2}{5}$

$$1\dfrac{2}{5} = \dfrac{7}{5}$$
$$= \dfrac{7 \times 20}{5 \times 20}$$
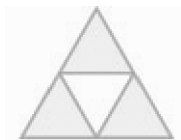$$= \dfrac{140}{100}$$
$$= 140\%$$

25. $\dfrac{5}{100}$

$$\dfrac{5}{100} = 5\%$$

27.
FOOD About $\dfrac{23}{25}$ of a watermelon is water. About what percent is this?

$$\dfrac{23}{25} = \dfrac{23 \times 4}{25 \times 4}$$
$$= \dfrac{92}{100}$$
$$= 92\%$$

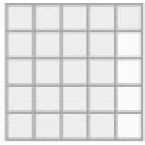**Write a percent to represent the shaded portion of each model.**

29.

$$\dfrac{\text{Number of shaded parts}}{\text{Total number of parts}} = \dfrac{3}{4}$$
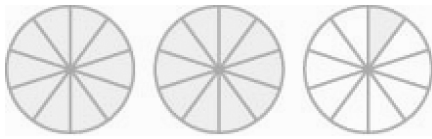$$\dfrac{3 \times 25}{4 \times 25}$$
$$= \dfrac{75}{100}$$
$$= 75\%$$

31.

$$\frac{\text{Number of shaded parts}}{\text{Total number of parts}} = \frac{21}{25}$$

$$= \frac{21 \times 4}{25 \times 4}$$

$$= \frac{84}{100}$$

$$= 84\%$$

33.

$$\frac{\text{Number of shaded parts}}{\text{Total number of parts (per whole)}} = \frac{21}{10}$$

$$= \frac{21 \times 10}{10 \times 10}$$

$$= \frac{210}{100}$$

$$= 210\%$$

35. INTERNET A survey showed that 82% of youth most often use the Internet at home. What fraction of youth surveyed most often use the Internet somewhere else?

Subtract 82% from 100%.
$100\% - 82\% = 18\%$
Convert to a fraction.

$$18\% = \frac{\overset{9}{\cancel{18}}}{\underset{50}{\cancel{100}}}$$

$$= \frac{9}{50}$$

37. OPEN ENDED Write three fractions that can be written as percents between 50% and 75%. Justify your solution.

Sample answer:
$$\frac{11}{20} = \frac{55}{100} \text{ or } 55\%,$$

$$\frac{3}{5} = \frac{60}{100} \text{ or } 60\%,$$

$$\frac{7}{10} = \frac{70}{100} \text{ or } 70\%$$

39. **Which One Doesn't Belong?** Identify the number that does not belong with the other three. Explain your reasoning.

| $\dfrac{9}{20}$ | $\dfrac{45}{100}$ | 45% | $\dfrac{8}{45}$ |

$\dfrac{8}{45}$; The others are equal to 45%.

41. On Friday, 65% of the students at Plainview Middle School bought a hot lunch in the cafeteria. What fractional part of the school did *not* buy a hot lunch in the cafeteria?

A $\dfrac{1}{65}$

B $\dfrac{13}{20}$

C $\dfrac{7}{20}$

D $\dfrac{6}{5}$

Subtract to find the percent that did not buy a hot lunch.
$100\% - 65\% = 35\%$

$35\% = \dfrac{\overset{7}{\cancel{35}}}{\underset{20}{\cancel{100}}}$

$= \dfrac{7}{20}$

The correct answer is C.

BABY-SITTING Use the following information.
Vonzell earns $7 per hour for baby-sitting twin boys.

43. Write an equation to represent the total amount t that Vonzell earns for baby-sitting these boys for h hours.

The hours h should be multiplied by 7.
$t = 7h$

Describe how the next term in each sequence can be found. Then find the next two terms.

45. 5, 8, 11, 14, ...

Each term is 3 more than the term before it.
$5 + 3 = 8$
$8 + 3 = 11$
$11 + 3 = 14$
To get the next two terms, add 3, and then add 3 again:
$14 + 3 = 17$
$17 + 3 = 20$

PREREQUISITE SKILL Write each fraction in simplest form.

47. $\dfrac{26}{100}$

$$\dfrac{26}{100} = \dfrac{26 \div 2}{100 \div 2}$$
$$= \dfrac{13}{50}$$

49. $\dfrac{10}{100}$

$$\dfrac{10}{100} = \dfrac{10 \div 10}{100 \div 10}$$
$$= \dfrac{1}{10}$$