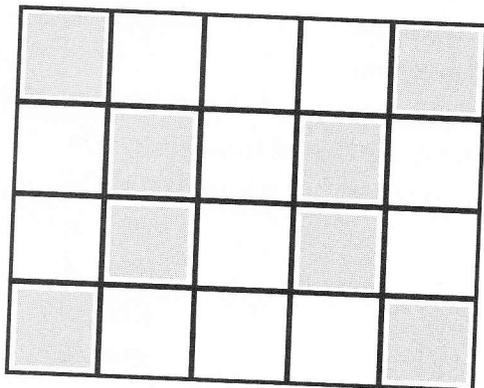


► **Set 39** (Answers begin on page 193.)

609. What percent of the figure is shaded?



- a. 20%
b. 25%
c. 40%
d. 50%
- 610.** After taxes are taken out, Tim's net paycheck is \$363.96. If 28% of his pay goes to taxes, what is his gross pay before taxes?
a. \$101.91
b. \$1299.86
c. \$465.87
d. \$505.50
- 611.** At a clothing store, 8% of the dresses are designer dresses and the rest are not. If there are 300 dresses at the boutique, how many are NOT designer dresses?
a. 136
b. 276
c. 296
d. 292
- 612.** Ben spends 15% of his weekly budget on transportation. This week he spent \$48 on transportation. What was his weekly budget this week?
a. \$720
b. \$520
c. \$305
d. \$320
- 613.** There are 26 pies in the county fair pie contest this year. Of these, 4 are peach. About what percent of the pies are peach?
a. 4%
b. 9%
c. 12%
d. 15%
- 614.** Michelle earned \$4 last week selling baked goods. If she earns \$36 this week, what is the percent of increase over last week's total?
a. 32%
b. 36%
c. 80%
d. 800%
- 615.** A sweater that originally costs \$34.99 is marked up 25%. How much does the sweater cost after the markup?
a. \$8.25
b. \$8.75
c. \$2.50
d. \$43.74

PERCENTAGES

- 616.** Martha bought a lawnmower on sale for 35% off and paid \$298.35. What was the price of the lawnmower before it was marked down?
- \$193.93
 - \$333.35
 - \$350.50
 - \$459.00
- 617.** Barbara buys six dolls and saves $3\frac{1}{2}\%$ of the total price by buying in bulk. If each doll originally costs \$300, how much does Barbara save?
- \$10.50
 - \$54.00
 - \$63.00
 - \$75.00
- 618.** Martin, a motel housekeeper, has finished cleaning about 40% of the 32 rooms he's been assigned. About how many more rooms does he have left to clean?
- 29
 - 25
 - 21
 - 19
- 619.** Garth cuts a piece of rope into three pieces. One piece is 5 inches long, one piece is 4 inches long, and one piece is 3 inches long. The longest piece of rope is approximately what percent of the original length before the rope was cut?
- 33%
 - 42%
 - 50%
 - 55%
- 620.** Robert's monthly utility bill is equal to 60% of his monthly rent, which is \$500 per month. How much is Robert's utility bill each month?
- \$560
 - \$440
 - \$300
 - \$200
- 621.** Forty cents is what percent of \$1.30?
- 40%
 - 31%
 - 20%
 - 11%
- 622.** In the high school choir, the ratio of males to females is 3 to 2. What percentage of the choir is female?
- 40%
 - 60%
 - 67%
 - 150%
- 623.** In a city last year, the ratio of rainy days to sunny days was 3 to 4. Approximately what percent of days were sunny last year?
- 43%
 - 57%
 - 75%
 - 133%
- 624.** Toby had a bag of 48 candies. He ate 25% of the candies for dessert one evening and then shared 25% of the remaining candies with his friends. About how many candies are now left?
- 9
 - 12
 - 24
 - 27

- 604.** ~~d. First, change 15% to a decimal and multiply: $0.15 \times \$26,000 = \$3,900$.~~
- 605.** ~~c. This percent problem asks that you find the whole when only a percent is known. Convert 325% to a decimal; $325\% = 3.25$. Now multiply the amount Patty usually spends by the percentage of increase: $\$4.75 \times 3.25 = \15.44 . Since Patty spent $\$15.44$ more than she usually spends, you must add the amount she usually spends to the amount of increase: $\$4.75 + \$15.44 = \$20.19$.~~
- 606.** ~~a. Subtract 196 from 230 to find the number of pounds he has lost; $230 - 196 = 34$. Then divide 34 by the original weight of 230, and change the decimal to a percent; $34 \div 230 \approx .148 \approx 14.8\%$, or about 15%.~~
- 607.** ~~b. Calculate 5% of \$45 by changing the percent to a decimal and multiplying; $0.05 \times 45 = 2.25$. Since the customer is getting a discount, subtract $\$45.00 - \2.25 to get a final price of \$42.75.~~
- 608.** ~~b. Convert 94% to a decimal to get 0.94, then multiply; $250 \times 0.94 = 235$.~~

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- 609.** c. Since there are 8 equal sections shaded out of a total of 20, $8 \div 20 = 0.4$ which is equal to 40%.
- 610.** d. Subtract 28% from 100% to get 72%, which is the percent that represents Tim's check after taxes are taken out. Since \$363.96 is equal to 72% of his gross pay, set up and solve the proportion $\frac{363.96}{x} = \frac{72}{100}$. Cross-multiply to get $72x = 36,396$. Divide each side of the equal sign by 72 to get $x = \$505.50$.
- 611.** b. In this two-step problem you must first determine what percent of the dresses are NOT designer dresses by subtracting; $100\% - 8\% = 92\%$. Now change 92% to a decimal and multiply; $0.92 \times 300 = 276$.
- 612.** d. In this problem, you need to find the whole when the percent is given. Since \$48 is equal to 15% of the weekly budget, set up the proportion $\frac{48}{x} = \frac{15}{100}$. Cross-multiply to get $15x = 4800$. Divide each side of the equation by 15 to get $x = \$320$.
- 613.** d. To find what percent one number is of another, first write out an equation. Since $x\% = \frac{x}{100}$ the equation is $\frac{x}{100} = \frac{4}{26}$. Cross-multiply to get: $26x = (4)(100)$, or $x = \frac{400}{26}$, which makes $x = 15.4$. So approximately 15% of the pies are peach. (Check your answer: $26 \times 0.15 = 3.9$; round up to 4.)
- 614.** d. The difference in the two weeks is $\$36 - \$4 = \$32$. To find the percent of increase, compare the difference to the original amount by setting up the proportion $\frac{32}{4} = \frac{x}{100}$. Cross-multiply to get $4x = 3200$. Divide each side of the equation by 4 to get 800%.
- 615.** d. To find the amount of markup, find 25% of \$34.99 by multiplying; $0.25 \times 34.99 = \$8.75$. Then, the original price plus the markup equals \$43.74.
- 616.** d. Since Martha saved 35%, she paid \$298.35, which was 65% of the original price. Set up the proportion $\frac{298.35}{x} = \frac{65}{100}$. Cross-multiply to get $65x = 29,835$. Divide each side of the equation by 65 to get $x = \$459$.
- 617.** c. To solve this problem, first multiply the cost of 1 doll by 6, so Barbara buys 6 dolls originally valued at \$1,800. Now change the percent to a decimal ($3.5\% = 0.035$); $\$1,800 \times 0.035 = \63 , for the amount Barbara saves.

- 618. d.** First, find out how many rooms Martin has already cleaned. Change the percent to a decimal: $40\% = 0.4$. (Remember zeros to the right of the digit that follows the decimal point do not change the value.) Now take $32 \times 0.4 = 12.8$, which you can round up to 13. Now, subtract: 32 rooms – 13 rooms already cleaned = 19 rooms left to clean. Alternatively, you know that if Martin has cleaned 40% of the 32 rooms, he still has 60% left to go: $32 \times 0.6 = 19.2$ or about 19 rooms.
- 619. b.** The original length of the rope before it was cut is $5 + 4 + 3 = 12$ inches. The longest piece is 5 inches. Five out of 12 becomes $\frac{5}{12} = 0.416 \approx 42\%$.
- 620. c.** First, change the percent to a decimal and then multiply; $60\% = 0.60$. The problem becomes $0.60 \times 500 = \$300$.
- 621. b.** Simply set up the equation in the manner in which the problem is written. Since $x\% = \frac{x}{100}$, the equation is $\frac{x}{100} = \frac{0.40}{1.30}$. Cross-multiply: $1.30x = (.40)(100)$. Simplify: $x = \frac{40}{1.30}$. Thus $x = 30.7$, which means that forty cents is about 31% of \$1.30.
- 622. a.** Since the ratio of males to females is 3 to 2, for every 3 males there are 2 females. Therefore, there are 2 females out of every 5 people ($2 + 3 = 5$). Change the ratio to a fraction and then divide to get a decimal; $\frac{2}{5} = 0.4$. Multiply by 100 to change to a percent; $0.4 \times 100 = 40\%$.
- 623. b.** Since the ratio of rainy days to sunny days is 3 to 4, for every 3 rainy days there are 4 sunny days. Therefore, there are 4 sunny days out of every 7 days ($3 + 4$). Change the ratio to a fraction and then divide to get a decimal; $\frac{4}{7} \approx 0.57$. Multiply by 100 to change to a percent; $0.57 \times 100 = 57\%$.
- 624. d.** First, determine how many candies Toby ate for dessert: $0.25 \times 48 = 12$. That leaves $48 - 12 = 36$ candies for Toby to share with his friends. Next, determine how many candies Toby and his friends shared: $0.25 \times 36 = 9$. That leaves $36 - 9 = 27$ candies.
- Set 40 (Page 92)**
- 625. c.** ~~Hilga and Jerome's initial distance apart equals the sum of the distance each travels in 2.5 hours. Hilga travels a distance of $(2.5)(2.5) \equiv 6.25$ miles, while Jerome travels $(4)(2.5) \equiv 10$ miles. This means that they were $6.25 + 10 \equiv 16.25$ miles apart.~~
- 626. a.** ~~15% of 40 is $0.15 \times 40 = 6$. Six is the number who chose dry dog food. Therefore, $40 - 6 = 34$ is the number who chose canned dog food.~~
- 627. a.** ~~To figure what percentage 1 is of 8, the formula is $\frac{1}{8} = \frac{x}{100}$. Cross-multiply: $100 = 8x$. Divide both sides by 8 to get $x = 12.5$.~~
- 628. d.** ~~To figure the total, the formula is $\frac{4}{x} = \frac{20}{100}$. Cross-multiply: $4 \times 100 = 20x$ or $400 \equiv 20x$, or $x = 20$.~~
- 629. c.** ~~To figure what percentage 15 is of 60 (minutes in an hour), the formula is $\frac{15}{60} = \frac{x}{100}$; $15 \times 100 = 60x$. Divide both sides by 60 to get $x = 25\%$.~~
- 630. a.** ~~$15 \times 100 = 75x$; $x = 20$.~~
- 631. c.** ~~$80 \times 100 = 320x$; $x = 25$.~~
- 632. b.** ~~$200 \times 78 = 100x$; $x = 156$.~~
- 633. c.** ~~First, you must change the percent to a decimal: $85\% = 0.85$. Now find the amount at which the property is assessed: $\$185,000 \times 0.85 = \$157,250$. Next, divide to find the number of thousands: $\$157,250 \div 1000 = 157.25$. Finally, find the tax: $\$24.85 \times 157.25 = \$3,907.66$.~~