

**ARITHMETIC PRACTICE**

Now it's time to practice these skills. Answer the following 15 questions, and then review the answer explanations that follow.

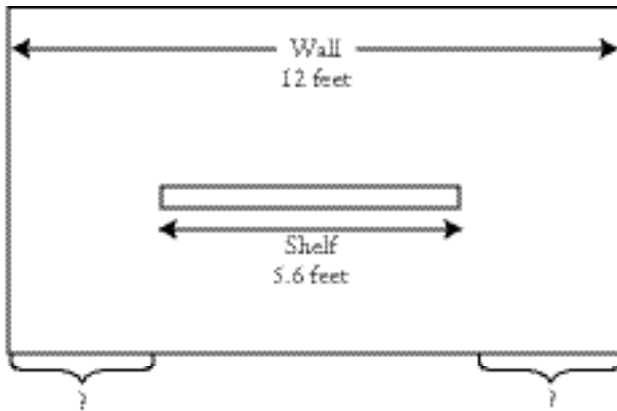
- 1.** A stockperson just received a shipment of 126 cans of paint that need to be displayed. If each shelf holds 9 cans, how many shelves will he need to display all of the paint?
  - a. 9 shelves
  - b. 14 shelves
  - c. 16 shelves
  - d. 32 shelves
  
- 2.** A server at a diner gives 15% of her tips to the busboy. At the end of the night she had made \$180 in tips. How much money did she give to the busboy?
  - a. \$1.50
  - b. \$2.70
  - c. \$15.00
  - d. \$27.00
  
- 3.** Doug works as a cashier at a supermarket. If peaches are on sale for \$1.25 per pound, how much will 2.4 pounds cost?
  - a. \$2.00
  - b. \$2.40
  - c. \$3.00
  - d. \$3.25
  
- 4.** A customer service representative wants to know the average number of phone calls that she receives. At work that day, she records that she received 104 phone calls between the hours of 9:00 A.M. to 5:00 P.M. What is the average number of phone calls she received per hour?
  - a. 13 calls/hr
  - b. 15 calls/hr
  - c. 20 calls/hr
  - d. 8 calls/hr

5. Juana works at a fruit smoothie stand. Before sales tax, how much will it cost for a large blueberry smoothie with a protein supplement?

<b>SMOOTHIE FLAVORS</b>	<b>SMALL</b>	<b>LARGE</b>	<b>EACH SUPPLEMENT \$0.55 EXTRA</b>
Strawberry-Banana	2.65	3.75	Calcium
Peach	2.85	3.95	Protein
Blueberry	2.75	3.85	Vitamin C

- a. \$3.30  
 b. \$4.30  
 c. \$4.40  
 d. \$5.50
6. A painter has a service charge of \$35 per hour plus the cost of the paint. How much is the total bill for a project if she spent \$32 on paint and worked for six hours?  
 a. \$67  
 b. \$192  
 c. \$227  
 d. \$242
7. A landscaper is hired to plant a row of orange trees along the edge of a client's land which measures 60 yards in length. Each tree needs to be at least 20 feet apart, and each tree must be 20 feet from both edges of the land. What is the maximum number of trees that he can plant?  
 a. 2  
 b. 4  
 c. 8  
 d. 10
8. A telemarketer figures that 1 in every 16 calls results in a sale of her company's product. She needs 12 sales to make her bonus. If her next shift is 8 hours straight, how many phone calls per hour will she need to make in order to reach her bonus goal?  
 a. 16  
 b. 24  
 c. 12  
 d. 48
9. Mei cleans houses for work and charges \$9 per hour. If she worked at a house from 9:30 A.M. until 3:00 P.M., how much should she charge?  
 a. \$40.50  
 b. \$49.50  
 c. \$54.00  
 d. \$58.50

- 10.** A store is currently having a sale where every frame is 30% off the original price. A customer wants to purchase a frame that was originally priced at \$24.90. What is the new sale price?
- \$7.47
  - \$8.30
  - \$16.60
  - \$17.43
- 11.** A customer buys two sweaters for \$37.50 each. Sales tax is 8%. If the customer pays with a hundred dollar bill, how much change should the customer get?
- \$19.00
  - \$25.00
  - \$81.00
  - \$54.00
- 12.** A carpenter has been hired to install a shelf in a bedroom. The bedroom wall is 12 feet wide and the shelf is 5.6 feet. In order for the shelf to be exactly centered on the wall, how much space should she leave on each side?

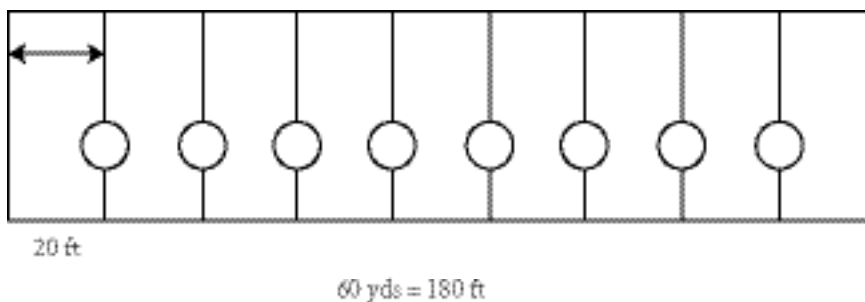


- 0.4 ft
  - 2.3 ft
  - 3.2 ft
  - 6.4 ft
- 13.** Victoria is trying to figure out how many cans of paint she will need for her next job. She has three rooms to paint. One room has  $480 \text{ ft}^2$  to paint, and the other two rooms have  $320 \text{ ft}^2$  each. If each one-gallon can of paint covers  $200 \text{ ft}^2$ , what is the minimum number of cans that Victoria will have to buy?
- 4 cans
  - 6 cans
  - 10 cans
  - 5 cans

- 14.** A cook is trying to decide which vendor he should use to purchase tomatoes. Vendor A charges \$25.80 for a 20-pound case of tomatoes. For the same type of tomatoes, Vendor B sells an 8-pound case of tomatoes for \$11.60. How much money per pound will the cook save by purchasing from Vendor A?
- a. \$0.11
  - b. \$0.14
  - c. \$0.16
  - d. \$0.29
- 15.** A landscaper has six trees to trim. Each tree takes 20 minutes for set-up, two hours for trimming, and 40 minutes for clean-up. He only has two days to complete this project and would like to work the same amount of time each day. How many hours will he need to work each day in order to complete his project on time?
- a. 6 hrs
  - b. 8 hrs
  - c. 9 hrs
  - d. 12 hrs

## ANSWERS

1. b. Since each shelf can hold 9 cans, divide 126 by 9;  $126 \div 9 = 14$
2. d. In order to solve the problem, fit the given information into the form: \_\_\_\_ is \_\_\_\_% of \_\_\_\_\_. In this case, \_\_\_\_ is 15% of \$180. Convert 15% to a decimal (0.15) and translate:  $x = .15 \times \$180$ . Solve by multiplying;  $x = \$27$ , which is the amount she will give to the busboy.
3. c. Multiply the total weight (2.4 lbs) and the sale cost (\$1.25) to get the total price;  $2.4 \text{ lbs} \times \$1.25/\text{lb} = \$3.00$ .
4. a. The first step is to figure out how many hours the representative worked. 9:00 A.M. to 5:00 P.M. is 8 hours. In order to find the average number of calls per hour, divide the total number of calls (104) by the number of hours worked (8 hours);  $104 \div 8 = 13 \text{ calls/hr}$ .
5. c. Use the table to answer this problem. A large blueberry smoothie costs \$3.85. Since there is a protein supplement, an additional \$0.55 is charged. The total is the sum of these two costs;  $\$3.85 + \$0.55 = \$4.40$ .
6. d. To figure out the painter's total service charge, multiply her hourly rate (\$35/hr) and the number of hours she worked (6 hours);  $\$35/\text{hr} \times 6 \text{ hours} = \$210$ . Take this total and add the cost of the paint (\$32);  $\$210 + \$32 = \$242$ .
7. c. The length of the plot is 60 yards. Convert this to feet by multiplying by 3. The length of the plot is 180 feet. Break this up into 20-foot sections, since each tree must be 20 feet apart;  $180 \div 20 = 9$  sections. Make a picture of the plot of land with the trees drawn in to determine the maximum number of trees. There can be a maximum of 8 trees, since each tree must be 20 feet from the edge.



8. b. Since the telemarketer has to make 16 calls in order to achieve 1 sale, multiply the number of sales she needs by 16;  $12 \text{ sales} \times 16 \text{ calls/sale} = 192 \text{ calls}$ . She has 8 hours to make 192 calls. Divide 192 by 8 in order to figure out the number of calls per hour;  $192 \text{ calls} \div 8 \text{ hours} = 24 \text{ calls/hr}$ . She has to make an average of 24 calls per hour in order to make her bonus goal.
9. b. The first step is to figure out how many hours Mei worked; 9:30 A.M. to 3:00 P.M. is 5.5 hours. She works for \$9/hr, so  $5.5 \text{ hours} \times \$9/\text{hr} = \$49.50$ .
10. d. Translate \_\_\_\_ is 30% of \$24.90 into an equation:  $x = .30 \times \$24.90$ . Solve:  $x = \$7.47$ , which represents the 30% savings. In order to find the new price of the frame, subtract the 30% savings (\$7.47) from the original price (\$24.90);  $\$24.90 - \$7.47 = \$17.43$ .

- 11. a.** Figure out the subtotal cost of the two sweaters;  $\$37.50 \times 2 = \$75$ . To calculate the tax, translate \_\_\_\_ is 8% of \$75 into an equation:  $x = .08 \times \$75$ . Solve:  $x = \$6$  which represents the 8% tax. In order to find the total cost of the sweaters, add the 8% tax (\$6) to the original price (\$75);  $\$75 + \$6 = \$81$ . To figure out the customer's change, subtract the total (\$81) from the amount of cash given (\$100);  $\$100 - \$81 = \$19$  change.
- 12. c.** Subtract the length of the shelf (5.6 ft) from the total length of the wall (12 ft) in order to find out how much extra wall space there is;  $12 \text{ ft} - 5.6 \text{ ft} = 6.4 \text{ ft}$ . Since the shelf has to be centered, the extra 6.4 ft must be distributed evenly on either side;  $6.4 \text{ ft} \div 2 = 3.2 \text{ ft}$  must be left on each side of the shelf.
- 13. b.** The first step is to calculate the total amount of square feet Victoria needs to paint. Two rooms have  $320 \text{ ft}^2$  and one has  $480 \text{ ft}^2$ . The total is the sum of these three rooms;  $320 \text{ ft}^2 + 320 \text{ ft}^2 + 480 \text{ ft}^2 = 1,120 \text{ ft}^2$ . Next, divide this total by the amount of square feet each gallon covers;  $1,120 \text{ ft}^2 \div 200 \text{ ft}^2/\text{gal} = 5.6$  gallons. Therefore, the minimum number of cans she will have to purchase is six cans.
- 14. c.** In order to compare these two vendors, they both need to be converted to a unit price. The easiest comparison would be price per pound, which is calculated by dividing the total cost by the number of pounds. Vendor A:  $\$25.80 \div 20 \text{ lbs} = \$1.29/\text{lb}$ . Vendor B:  $\$11.60 \div 8 \text{ lbs} = 1.45/\text{lb}$ . The question asks how much the cook saves per pound, so subtract the unit price of A from the unit price of B;  $\$1.45 - \$1.29 = \$0.16$ .
- 15. c.** Add up the various stages in order to figure out the total amount of time he must spend per tree;  $20 \text{ min} + 120 \text{ min} + 40 \text{ min} = 180 \text{ min}$  (3 hrs). It takes him 3 hours per tree and he has 6 trees to trim;  $6 \text{ trees} \times 3 \text{ hrs/tree} = 18 \text{ hrs}$  total. He has 2 days to accomplish 18 hrs of work;  $18 \text{ hrs} \div 2 \text{ days} = 9 \text{ hrs/day}$ .