

6th into 7th Summer Packet

Use an integer strategy to find each answer.

$$(-4) - (+2) =$$

$$(-5) - (+12) =$$

$$(-10) + (-10) =$$

$$(+6) - (+9) =$$

$$(+6) + (+9) =$$

$$(-4) \times (+7) =$$

$$(-36) \div (+3) =$$

$$(-10) + (+12) =$$

$$(+11) + (-2) =$$

$$(-12) \times (-8) =$$

$$(+6) - (+6) =$$

$$(-2) - (-3) =$$

$$(-4) + (-7) =$$

$$(+10) \div (-10) =$$

$$(-7) - (+1) =$$

$$(+7) - (-4) =$$

$$(+4) - (+5) =$$

$$(+1) + (-4) =$$

$$(-12) \div (+12) =$$

$$(-6) \times (+12) =$$

$$(-12) \times (+1) =$$

$$(-3) - (-1) =$$

$$(+1) + (-11) =$$

$$(-10) \times (-3) =$$

$$(+11) - (-10) =$$

$$(-10) - (-3) =$$

$$(+44) \div (+11) =$$

$$(-66) \div (-11) =$$

$$(+12) \times (+11) =$$

$$(-8) \times (+1) =$$

Adding and Subtracting Mixed Fractions

Find the value of each expression in lowest terms.

1. $2\frac{1}{5} + 1\frac{3}{4}$

5. $1\frac{1}{2} + 2\frac{3}{5}$

9. $3\frac{1}{2} - 1\frac{1}{2}$

2. $3\frac{1}{2} - 2\frac{2}{3}$

6. $3\frac{1}{2} - 2\frac{5}{9}$

10. $5\frac{1}{2} + 5\frac{1}{4}$

3. $3\frac{1}{2} - 3\frac{1}{2}$

7. $2\frac{3}{4} + 1\frac{1}{5}$

11. $1\frac{10}{11} - 1\frac{1}{3}$

4. $5\frac{3}{4} - 5\frac{1}{4}$

8. $3\frac{1}{4} - 2\frac{3}{8}$

12. $1\frac{5}{12} + 3\frac{1}{3}$

Multiplying and Dividing Mixed Fractions

Find the value of each expression in lowest terms.

1. $3\frac{2}{7} \div 1\frac{1}{4}$

6. $1\frac{1}{3} \times 1\frac{2}{3}$

11. $1\frac{3}{8} \div 1\frac{1}{12}$

2. $1\frac{2}{3} \div 3\frac{1}{3}$

7. $1\frac{1}{3} \times 2\frac{1}{5}$

12. $2\frac{7}{8} \div 5\frac{1}{2}$

3. $2\frac{1}{4} \div 1\frac{1}{2}$

8. $2\frac{1}{7} \div 2\frac{1}{2}$

13. $3\frac{2}{3} \div 1\frac{1}{6}$

4. $6\frac{1}{2} \div 2\frac{2}{3}$

9. $1\frac{3}{11} \div 2\frac{1}{3}$

14. $1\frac{3}{8} \times 3\frac{1}{3}$

5. $2\frac{1}{10} \div 2\frac{3}{5}$

10. $3\frac{1}{2} \div 2\frac{3}{4}$

15. $1\frac{4}{11} \div 1\frac{1}{4}$

Order of Operations

Solve each expression using the correct order of operations.

$$(7 - 6 + 2)^2 \times 5$$

$$(4^2 + 3) \times (10 - 8)$$

$$2^2 \times (9 - 7 + 6)$$

$$4 + 7^2 \div (6 - 5)$$

$$(6^2 + 9) \div (10 - 5)$$

$$(4^2 - 8 + 10) \div 6$$

$$(2^3 - 5 + 7) \div 10$$

$$(4 + 6 - 2^3) \times 3$$

$$(3^2 - 9) \div 8 + 10$$

$$5 \div (4 \times 2 - 7)^3$$

Order of Operations

Solve each expression using the correct order of operations.

$$2^3 \times (3 + 8 \div 4)$$

$$(10 \div 5 + 2)^2 \times 4$$

$$3 \times (8 + 7 - 2^2)$$

$$8 \div (6 + 4 - 9)^2$$

$$4 \div (5^2 - 8 \times 3)$$

$$6^2 \div (10 + 4 - 8)$$

$$(10^2 - 7 + 3) \div 6$$

$$4 \times (6 + 9 - 3^2)$$

$$(3^2 - 7 + 5) \times 10$$

$$10 \times (2^3 + 7 - 6)$$

Evaluate each expression using the values given.

1) $n^2 - m$; use $m = 7$, and $n = 8$

2) $8(x - y)$; use $x = 5$, and $y = 2$

3) $yx \div 2$; use $x = 7$, and $y = 2$

4) $m - n \div 4$; use $m = 5$, and $n = 8$

5) $x - y + 6$; use $x = 6$, and $y = 1$

6) $z + x^3$; use $x = 1$, and $z = 19$

7) $y + yx$; use $x = 15$, and $y = 8$

8) $q \div 6 + p$; use $p = 10$, and $q = 12$

9) $x + 8 - y$; use $x = 20$, and $y = 17$

10) $15 - (m + p)$; use $m = 3$, and $p = 10$

11) $10 - x + y \div 2$; use $x = 5$, and $y = 2$

12) $p - 2 + qp$; use $p = 7$, and $q = 4$

1. The table shows the costs of different size jars of peanut butter. Which of the jars has the lowest unit rate?

Comparison Shopping	
Size	Cost
12-oz	\$3.00
18-oz	\$4.40
25-oz	\$6.75
32-oz	\$8.25

2. Vicky jogged $2\frac{3}{4}$ miles in $\frac{1}{2}$ hour. What was her average rate of speed in miles per hour?
3. **SHORT ANSWER** A pair of jeans that normally sells for \$35 is on sale for 20% off. Find the sale price of the jeans. Then find the total cost of the jeans if the sales tax rate is 6%.
4. How much simple interest is earned on an investment of \$1,250 if the money is invested for 5 years at an annual interest rate of 4.5%?
5. A muffin recipe calls for 4 cups of sugar and yields 36 muffins. If Amelia only wants to make 24 muffins, how much sugar will she need?
6. Simplify the complex fraction.
- $$\frac{\frac{4}{3}}{\frac{2}{5}}$$
7. The bookstore normally sells mechanical pencils for \$6.50. This week the pencils are discounted by 25%. To the nearest cent, what is the amount of discount?
8. Christy drove 135 miles in 2.5 hours. What was her average speed in miles per hour?

9. Which two points represent integers with the same absolute value?



10. How is the fraction $\frac{19}{30}$ written as a decimal?

11. Suppose a submarine is diving from the surface of the water at a rate of 80 feet per minute. What integer represents the depth of the submarine after 7 minutes?

12. What is the simplified form of the algebraic expression shown below?

$$7w - 6 - 3w + 5$$

Indicate the answer choice that best completes the statement or answers the question.

13. Which expression is equivalent to the algebraic expression below?

$$-4(3x - 5)$$

- a. $-x - 5$ b. $-x - 9$ c. $-12x + 20$ d. $-12x - 5$

14. Suppose a 24-acre plot of land is being divided into $\frac{1}{3}$ -acre lots for a housing development. How many lots will there be in the development?

15. Jacob is $5\frac{5}{6}$ feet tall. Linda is $5\frac{1}{4}$ feet tall. How much taller is Jacob?

16. The thickness of a CD is about $\frac{1}{20}$ inch. If Carrie has a stack of 52 CDs, what is the height of the stack?

17. What is the quotient of the division problem?

$$\frac{-44}{4}$$

18. Simplify the expression.

$$(4x - 1) + (-6x + 3)$$

19. Overnight the low temperature dropped to -6 degrees Fahrenheit. If the high temperature during the day was 11 degrees Fahrenheit, what was the difference between the high and low temperatures?

20. **SHORT ANSWER** Danielle owes her brother \$40. She pays him \$25. Write an integer to represent how much she still owes her brother. Explain how you solved.

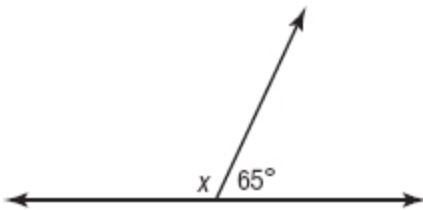
21. **SHORT ANSWER** Write the next three terms of the arithmetic sequence below.

$$1, 9, 17, 25, 33, \dots$$

22. Which operation should be performed first to solve the inequality below?

$$-3x + 5 \leq 23$$

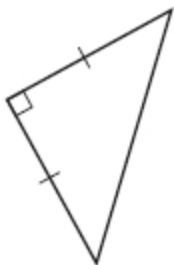
23. What is the measure of x in the figure below?



24. What is the solution to the equation below?

$$\frac{x}{3} = -6$$

25. Classify the triangle below by its angles and sides.



26. What is the solution to the equation below?

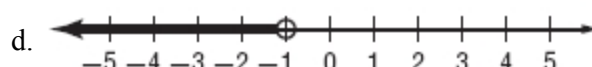
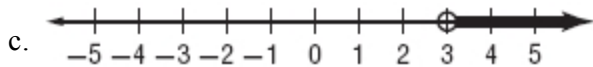
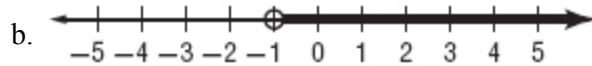
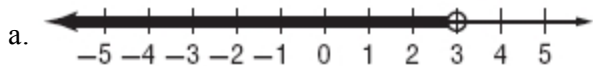
$$-\frac{5}{4}x + \frac{2}{5} = -\frac{13}{30}$$

27. Terrance is making a scale model of a car that is 16 feet long. He is using the scale 1 inch = 2.5 feet. How long is Terrance's model?

Indicate the answer choice that best completes the statement or answers the question.

28. Which number line shows the solution to the inequality below?

$$v - 2 > 1$$



29. Angles R and Z are complementary. If $m\angle R = 26^\circ$, what is the measure of angle Z ?

30. Tien bought movie tickets for herself and two of her friends. She paid \$8.50 for each ticket. If Tien has \$14.50 left, how much money did she have before she bought the movie tickets?

31. The angle measures of a triangle are 28° , 70° , and 82° . Classify the triangle by its angle measures.

Indicate the answer choice that best completes the statement or answers the question.

32. Fran wants to rent a scooter for the afternoon, but she can spend no more than \$50.

Scooter Rental	
First Hour.....	\$12.50
Each Additional Hour.....	\$7.50

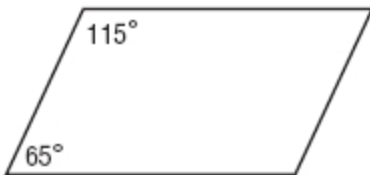
Which inequality can Fran use to find the maximum number of hours she can rent a scooter?

- a. $12.5 + 7.5n \leq 50$ b. $12.5 + 7.5n < 50$ c. $12.5n + 7.5 \leq 50$ d. $20n < 50$

33. Five more than twice a number is equal to 19. What is the number?

Indicate the answer choice that best completes the statement or answers the question.

34. Two angle measures in a parallelogram are labeled. Which term best describes the angles?



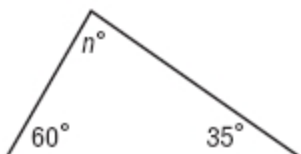
- a. complementary b. acute c. obtuse d. supplementary

Enter the appropriate value to answer the question or solve the problem.

35. **SHORT ANSWER** Solve the equation below. Check your answer.

$$2(x + 5) = 16$$

36. **SHORT ANSWER** The sum of the measures of the angles of a triangle is 180. Write and solve an equation to find the missing measure in the figure below. Show your work.



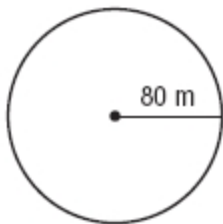
37. **SHORT ANSWER** A shipping company charges \$3.50 plus \$0.85 per pound to ship a package. Janet shipped a package and the total charge was \$8.60. Write and solve an equation to find the weight of the package.

38. **SHORT ANSWER** Carla and Mandy are solving the inequality below.

$$-4x \geq 12$$

Carla says the solution is $x \leq -3$, while Mandy says the solution is $x \geq -3$. Which student is correct? What mistake was made by the other student?

39. If Michelle rollerblades around a circular track with a radius of 80 meters, how far does she skate? Use 3.14 for π . Round to the nearest tenth.



40. A sprinter runs 400 meters in 54 seconds. What is the runner's average running rate in meters per second? Round to the nearest tenth.

41. The weight of an object on Mars varies directly as the weight of the object on Earth. A 90-pound object on Earth weighs 34 pounds on Mars. If an object weighs 135 pounds on Earth, how much does it weigh on Mars?

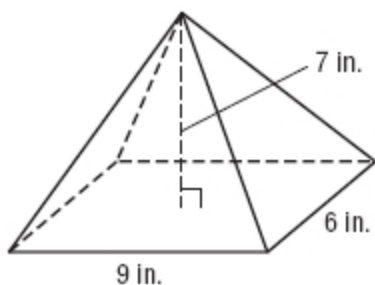
42. A jar contains 3 pennies, 5 nickels, 4 dimes, and 6 quarters. If a coin is selected at random, what is the probability of selecting a penny?

43. What expression is equivalent to the algebraic expression below?

$$3(-2x - 1)$$

44. What is the probability of tossing a penny and landing on heads three times in a row?

45. What is the scale factor of a drawing if the scale is 1 inch = 4 feet?
46. Megan surveyed a random sample of 60 students at her school and found that 42 of them ride the bus to school each day. If there are 320 students at Megan's school, about how many of them ride the bus to school each day?
47. Last summer there were 88 players at Coach Rodriguez's basketball camp. This year there are 125% of this number of players. How many players are there at camp this year?
48. What is the volume of the pyramid shown below?



49. What is the decimal equivalent of the fraction $\frac{32}{45}$?
50. Last year there were 29 students at a creative writing workshop. This year 35 students attended the workshop. To the nearest tenth, what is the percent of change in the number of students in attendance?

Indicate the answer choice that best completes the statement or answers the question.

51. In a recent survey, 88% of shoppers at a grocery store said they would be interested in a rewards program. If there were 450 shoppers surveyed, which proportion can be used to find the number who are interested in a rewards program?

a. $\frac{100}{88} = \frac{?}{450}$ b. $\frac{88}{450} = \frac{?}{100}$ c. $\frac{88}{100} = \frac{450}{?}$ d. $\frac{88}{100} = \frac{?}{450}$

52. Which of the following shows the rational numbers in order from least to greatest?

a. 81.5%, $0.81\bar{5}$, $\frac{33}{40}$ b. 81.5%, $\frac{33}{40}$, $0.81\bar{5}$ c. $0.81\bar{5}$, $\frac{33}{40}$, 81.5% d. $0.81\bar{5}$, 81.5%, $\frac{33}{40}$

53. **SHORT ANSWER** Ronaldo rolled a number cube 50 times. During these trials he rolled the number 5 a total of 7 times. Based on these trials, what is the probability of rolling a 5? Does this represent a theoretical or experimental probability? Explain.

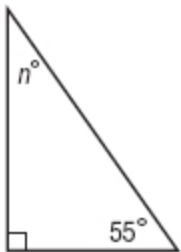
Indicate the answer choice that best completes the statement or answers the question.

54. Which of the following rational numbers is equivalent to a repeating decimal?

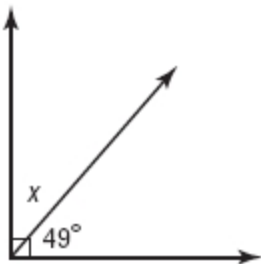
a. $\frac{24}{60}$ b. $\frac{30}{64}$ c. $\frac{29}{50}$ d. $\frac{35}{60}$

55. The angle measures of a triangle are 33° , 94° , and 53° . Classify the triangle by its angle measures.

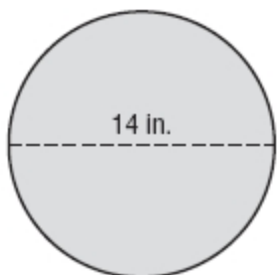
56. **SHORT ANSWER** Write and solve an equation to find the missing measure. Show your work.



57. What is the measure of x in the figure below?

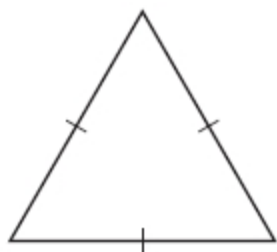


58. A large pizza at Angelo's Pizzeria has a diameter of 14 inches. What is the area of the pizza? Use 3.14 for π . Round to the nearest tenth.



59. A home improvement store normally sells 20-foot extension ladders for \$225. This week the ladders are discounted by 20%. What is the sale price of the ladders?

60. Classify the triangle below by its angles and sides.



61. The table shows the number of yards jogged by Kaylee each minute.

Time (min)	Distance (yd)
1	175
2	350
3	525
4	700

If the pattern continues, how many yards will Kaylee have jogged after 20 minutes?

62. Simplify the expression below.

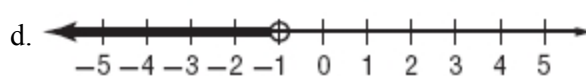
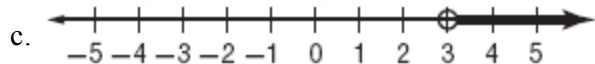
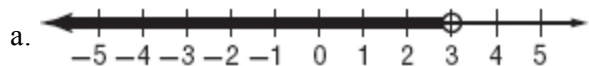
$$(-7x + 4) - (2x - 8)$$

63. Angles C and E are supplementary. If $m\angle C = 77^\circ$, what is the measure of angle E ?
64. How much simple interest would be earned on an investment of \$16,000 if the money is invested for 20 years at an annual interest rate of 5.25%?
65. A muffin recipe calls for 8 cups of flour and yields 24 muffins. If Natalie wants to make 60 muffins, how much flour will she need?

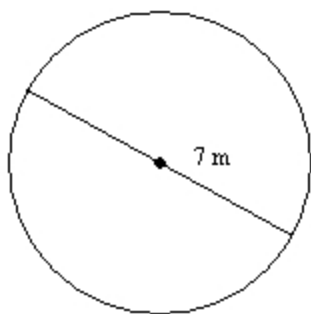
Indicate the answer choice that best completes the statement or answers the question.

66. Which number line shows the solution to the inequality below?

$$-4g < 4$$



67. What is the area of the figure below? Use 3.14 for π . Round to the nearest tenth.



68. Christy drove 132 miles in $2\frac{3}{4}$ hours. What was her average speed in miles per hour?
69. Suppose the length of each side of a square is decreased by 4 feet. If the perimeter of the square is now 32 feet, what was the original length of each side?

70. What is the solution to the equation?

$$4(x + 1) = -16$$

71. Which operation should be performed last to solve the inequality below?

$$-7x + 4 > -10$$