KING SCHOOL

Summer 2026 Mathematics Assignment

FOR STUDENTS ENTERING MAT 802

This math packet provides an opportunity for you to keep your math skills sharp over the summer by practicing what you learned this year. Complete all work **independently** and in the space provided, then circle your final answer. At the start of the school year, this will be collected and will be entered as your first homework grade. If you are confused on a particular topic, please refer to your Math in Focus textbook, your notes from MAT 702 or look up the topic name on Khan Academy or Math Playground.

NO CALCULATOR!!

NAME: _____

KING SCHOOL
2026 MATH SUMMER ASSIGNMENT

DIRECTIONS:

- Please read all directions carefully.
- All work should be done directly on this packet. If you need more space to show your work, please use a separate sheet of paper labeling the section and problem number/letter. Then attach the extra sheets to the back of this packet. If you use additional pages to show your work, **ALL FINAL ANSWERS MUST STILL BE WRITTEN AND CIRCLED IN THE ORIGINAL PACKET.**
- Every final answer should be **circled**.
- Show all of your work. **NO CALCULATORS** may be used when working through this packet. It is expected that all of your calculations are completed on each page.
- You may use your notes from MAT 702 as well as any educational resource on the internet (Khan Academy or Math Playground).
- Working with a tutor on the exact problems in this packet is **NOT** permitted.
- **This assignment will be collected at the beginning of our first class and will be graded as your first homework assignment!**

Good Luck! Take Risks!

Have fun exercising your math brain!!

I have read and understand all of the directions written above and I have completed this packet in its entirety independently and without a calculator.

Signature: _____ **Date:** _____

MAT 702 MATERIAL

- ◊ **ALGEBRAIC EXPRESSIONS**
  - Using Letters to Represent Numbers
  - Evaluating Algebraic Expressions
  - Simplifying Algebraic Expressions
  - Expanding and Factoring Algebraic Expressions
  - Real-World Problems: Algebraic Expressions
- ◊ **EQUATIONS AND INEQUALITIES**
  - Solving Algebraic Equations
  - Writing Linear Equations
  - Real-World Problems: Equations
  - Solutions of Simple Inequalities
  - Real-World Problems: Inequalities
- ◊ **THE COORDINATE PLANE**
  - Points on a Coordinate Plane
  - Lengths of Line Segments
  - Real-World Problems: Graphing
- ◊ **AREAS OF POLYGONS**
  - Areas of Triangles
  - Area of Parallelograms and Trapezoids
  - Area of Other Polygons
- ◊ **MEASURES OF CENTRAL TENDENCY**
  - Mean
  - Median
  - Mode

◊ **RATIONAL NUMBERS**

- Representing Rational Numbers on a Number Line
- Writing Rational Numbers as Decimals
- Adding Integers
- Subtracting Integers
- Multiplying and Dividing Integers
- Order of Operations with Integers
- Operations with Fractions and Mixed Numbers
- Operations with Decimals

◊ **ALGEBRAIC EXPRESSIONS**

- Adding Algebraic Terms
- Subtracting Algebraic Terms
- Simplifying Algebraic Expressions

ALGEBRAIC EXPRESSIONS

Evaluate each expression for the given values of the variable.

1) $4x + 15$ when $x = 3$ and $x = 12$

2) $22 - 5y$ when $y = 6$ and $y = 11$

Solve each equation using inverse operations.

3) $2x = 8$

4) $\frac{1}{4}x = 18$

5) $a - 5 = 13$

6) $x + 7 = 18$

7) $23 = x + 14$

8) $17 = x - 30$

9) $\frac{x}{3} = 9$

10) $12 = \frac{e}{6}$

Solve the equation using inverse operations. Express your answer as a fraction in simplest form.

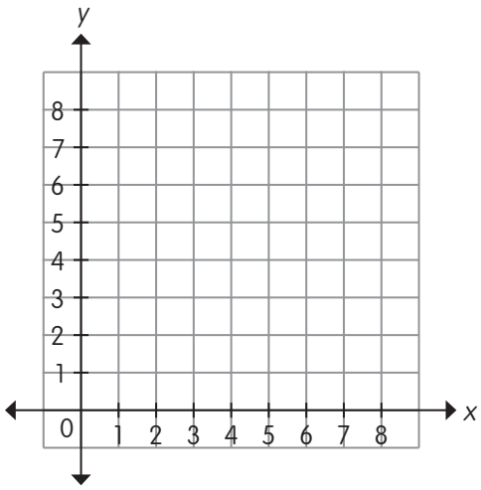
11) $a + \frac{3}{7} = \frac{6}{7}$

12) $x + \frac{5}{12} = \frac{7}{12}$

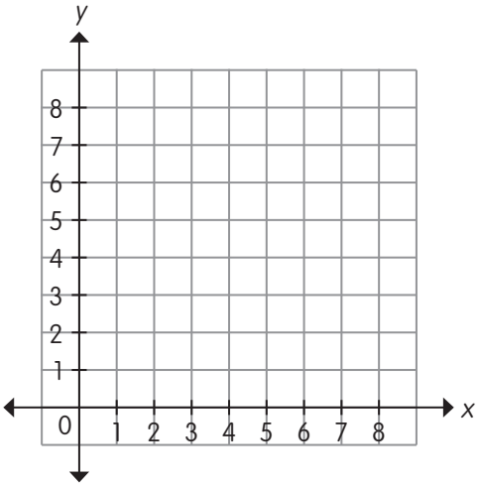
13) $2x = \frac{3}{4}$

Plot the points on a coordinate plane.

14) $A(0, 5)$ and $B(4, 2)$



15) $C(3, 5)$ and $D(1, 4)$



Write an algebraic expression for each problem. Then, solve.

16) There were 10 girls in a classroom. Each girl received a certain number of cupcakes. If a total of 40 cupcakes were given out to the girls, how many cupcakes did each girl receive?

17) Zachary gave some money to Ella and Gavin. He gave Ella twice as much money as Gavin. If he gave Ella $400, how much did he give Gavin?

Compare each pair of numbers are expressions using $=, <,$ or $>$.

18) $32 \div 2$ _____ -16

19) 10 _____ $6 + 4$

20) -14 _____ -9

Graph the solution set of each inequality on a number line. Then, determine three solutions of each inequality.

21) $x > 6$

23) $x \geq 5$

25) $x \leq 7$

22) $x < 5$

24) $x \geq -10$

26) $x \leq -8$

Solve.

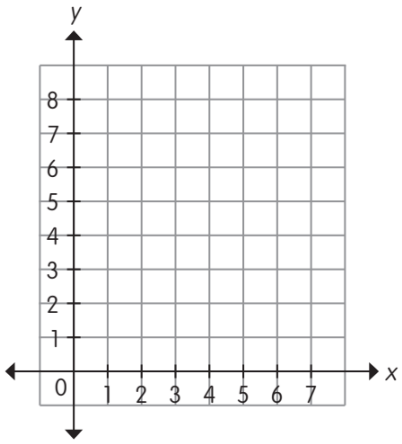
27) Carter is raising at least $\$500$ for a charity event. Write an inequality to represent the situation. State the least amount of money Carter needs to raise.

28) An auditorium has a seating capacity of 300 persons. Write an inequality to represent the situation. What is the maximum number of persons the auditorium can hold?

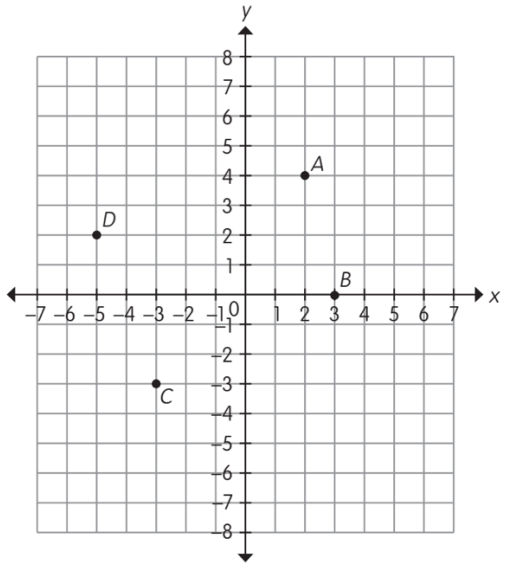
THE COORDINATE PLANE

Plot the points on a coordinate plane.

29) $A(4, 3)$, $B(0, 5)$, and $C(1, 2)$

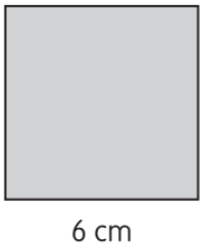


30) Give the coordinates of points A, B, C, and D. In which quadrant is each point located?

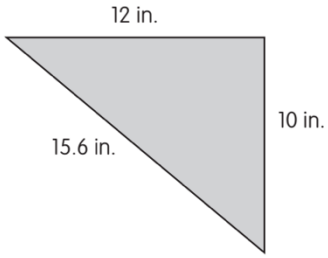


Find the perimeter of each figure.

31) Figure $ABCD$ is a square.

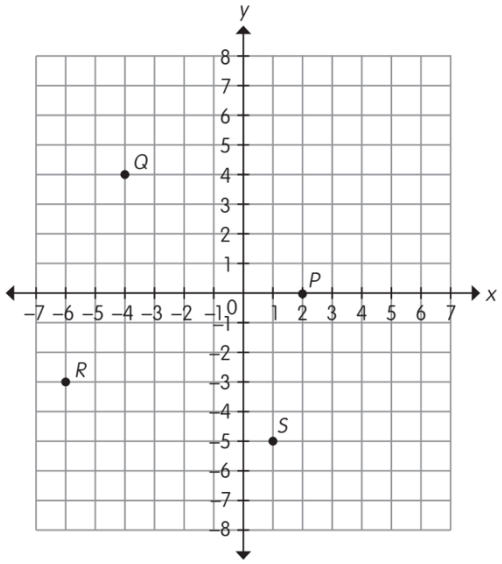


32) Figure RST is a right triangle.



For numbers 33 and 34, (a) give the coordinates of P, Q, R, and S. Then, (b) identify which quadrant each point is located.

33)



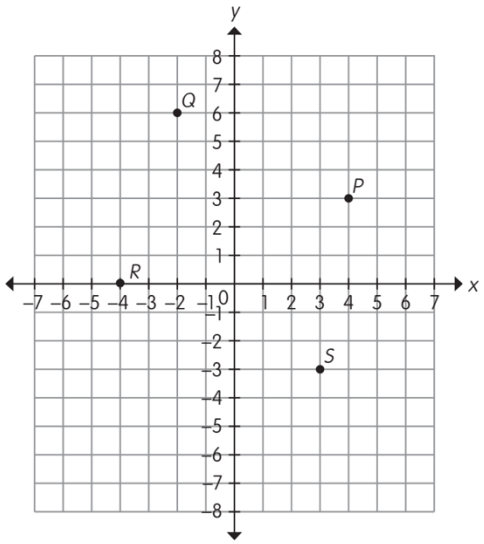
Point P =

Point Q =

Point R =

Point S =

34)



Point P =

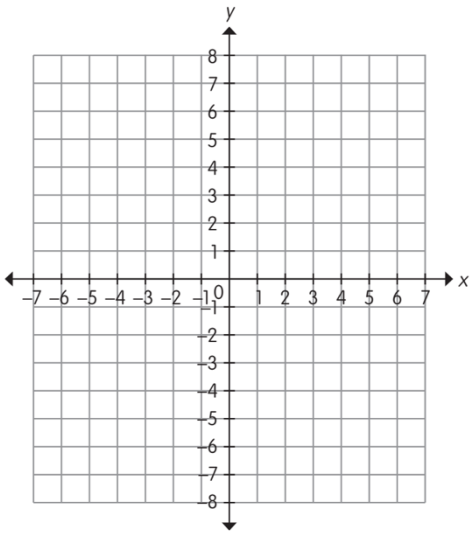
Point Q =

Point R =

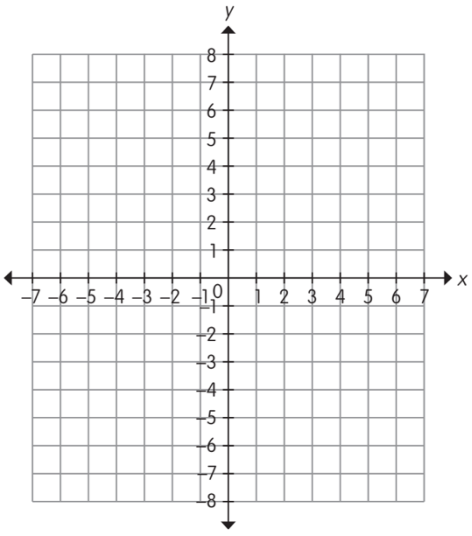
Point S =

Plot each pair of points on a coordinate plane. Connect the points to form a line segment and find its length.

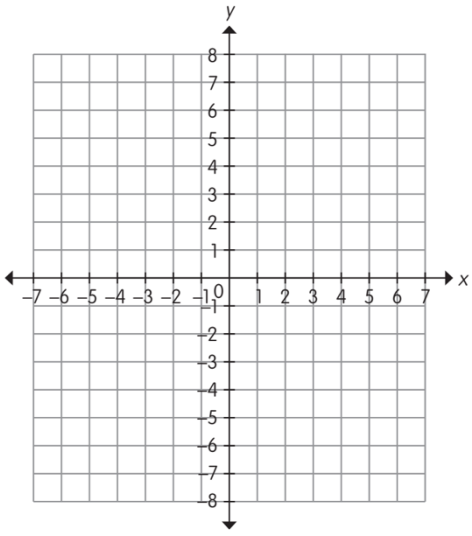
35) $A(2, 4)$ and $B(2, -5)$



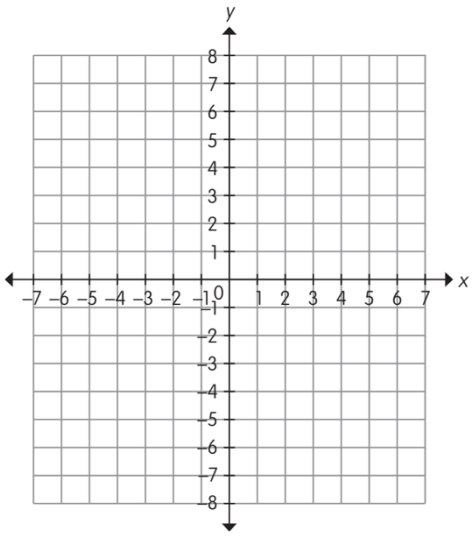
36) $C(1, -5)$ and $(7, -5)$



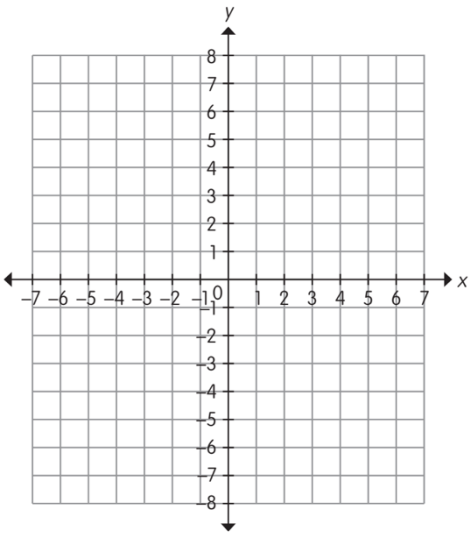
37) $E(3, -4)$ and $F(3, 5)$



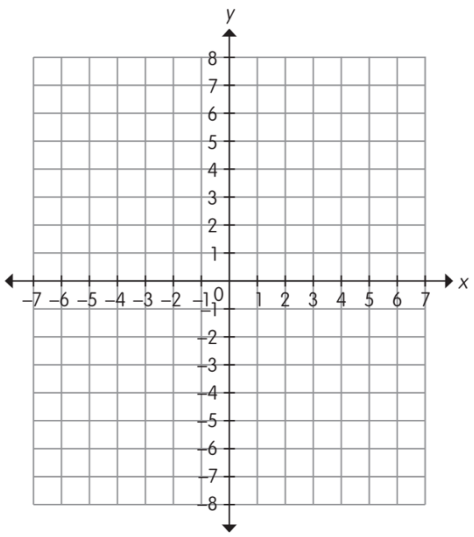
38) $G(-2,-4)$ & $H(-5,-4)$



39) $E(4,-1)$ and $F(4,7)$

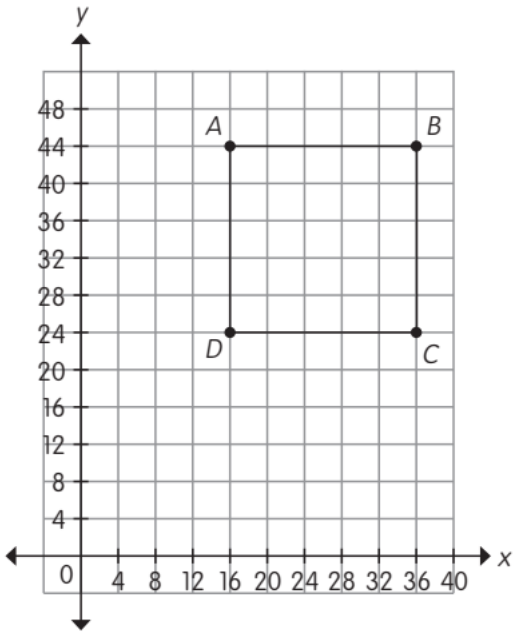


40) $G(-2,5)$ and $H(6,5)$



The side length of each grid square is 4 meters.

41) Give the coordinates of A, B, C, and D.



Coordinates of $A = (_____, _____)$

Coordinates of $B = (_____, _____)$

Coordinates of $C = (_____, _____)$

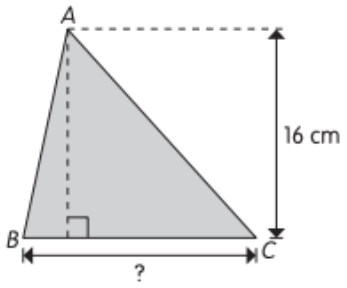
Coordinates of $D = (_____, _____)$

42) A gardener wants to build a fence around the garden. What is the perimeter of the fence?

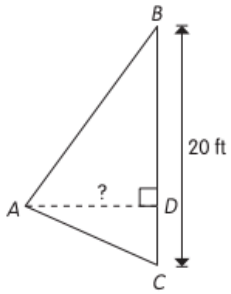
AREA OF POLYGONS

Find the base or height of the triangle.

43) The area of Triangle ABC is 160 square centimeters. Find the base of Triangle ABC.

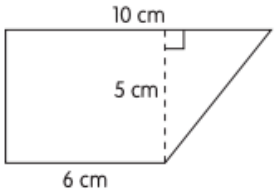


44) The area of Triangle ABC is 100 square feet. Find the height of Triangle ABC.

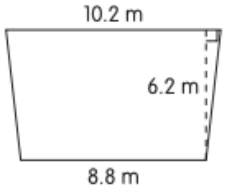


Find the area of each trapezoid.

45)

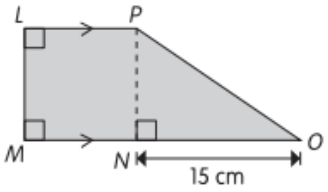


46)

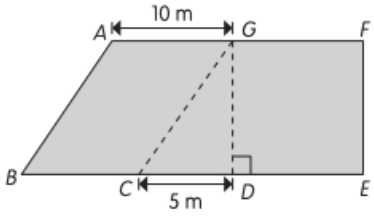


Solve.

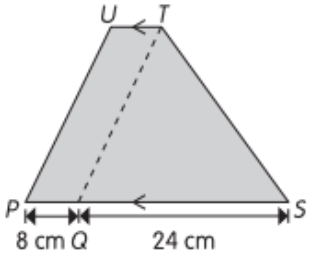
47) Trapezoid $LMOP$ is made up of Square $LMNP$ and Triangle PNO. The area of Triangle PNO is 45 square centimeters. The length of $\overline{NO}$ is 15 centimeters. Find the areas of Square $LMNP$ and Trapezoid $LMOP$.



48) Trapezoid $ABEF$ is made up of Parallelogram $ABCG$ and Square $GDEF$. The area of Trapezoid $ABDG$ is 225 square meters. Find the area of Trapezoid $ABEF$.



49) Trapezoid $UPST$ is made up of Parallelogram $UPQT$ and Triangle TQS. The area of Parallelogram $UPQT$ is 160 square centimeters. Find the areas of Triangle TQS and Trapezoid $UPST$.



MEASURES OF CENTRAL TENDENCY

Solve.

50) The table to the right shows the height of the three students.

a) What is the mean height of the three students?

Heights of Students

Student	Height (cm)
A	130
B	145
C	148

Find the median of each data set.

51) The data set shows the heights of five children.

$$1.3\ m, 1.35\ m, 1.2\ m, 1.29\ m, 1.4\ m$$

Find the mode of each set of data.

52) On a quiz, the sixth graders scored the following points.

$$30, 45, 45, 40, 45$$

RATIONAL NUMBERS

Express each number as a product of its prime factors.

53) 18

54) 325

Complete each inequality using > or <.

55) 8 _____ -12

56) -29 _____ -22

57) -42 _____ 35

Solve.

58) Jack and Lily both started with 0 points at the beginning of a board game. During the game, Jack lost 220 points and Lily lost 180 points. Who had fewer points at the end? Write an inequality statement to compare their results at the end of the game.

Complete each inequality using > or <.

59) $|18|$ _____ $|-44|$

60) $|200|$ _____ $|-400|$

Solve.

61) The volume of water in a tank was $9.56\ liters$. Nicole scooped out $0.693\ liter$ of water from the tank. How many liters of water are left in the tank?

62) A store owner has $14.12\ pounds$ of salt. He stores the salt into 8 containers equally. How many pounds of salt are there in each container?

Solve.

63) There are 94 apples in a box. 37 of them are red and the rest are green.

a. What is the ratio of the number of red apples to the number of green apples?

b. What is the ratio of the number of green apples to the total number of apples?

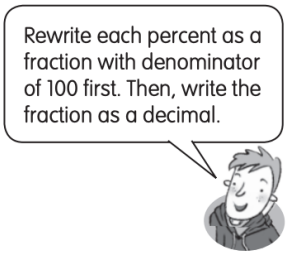
64) Of the 500 vehicles that passed a junction, 108 are taxis. What percent of the vehicles that passed the junction are taxis?

65) Out of 40 questions, Jordan answered 18 of them incorrectly. What percent of the questions did he answer correctly?

Express each percent as a decimal.

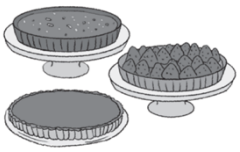
66) 7%

67) 367%



Solve.

68) In a bakery, 14 chocolate tarts, 24 strawberry tarts, and 10 cheese tarts are made. What percent of the tarts are chocolate?



Express each fraction or mixed number as a percent.

69) $\frac{13}{25}$

70) $3\frac{3}{4}$

71) $8\frac{17}{20}$

Express each decimal as a percent.

72) 0.78

73) 6.25

74) 32.5

Express each percent as a fraction in simplest form.

75) 0.8%

76) 45.5%

77) $57\frac{2}{5}\%$

ALGEBRAIC EXPRESSIONS

Write an algebraic expression for each statement.

78) Sum of h and 4

79) x more than 12

80) Quotient of p and 3

81) Subtract 8 from d

82) 6 less than b

83) 7 groups of c

84) The price of a sling bag, given that it costs twice as much as a box of cards that costs m dollars.

85) The total number of seashells Mandy and Ken have, given that Mandy has $4s$ seashells and Ken has 12 more seashells that Mandy.

86) Add 15 to the product of y and 3.

Solve.

87) The temperature in a city at 7 a.m. was -5℃. The temperature rose 7℃ by noon and then fell 9℃ by midnight. What was the temperature at midnight?

88) A helicopter rises 250 feet in the air, descends 150 feet, and then rises 97 feet. What is the height of the helicopter from the ground?

Factor each expression.

89) $9 - 18f$

90) $30h + 15$

Using long division, write each rational number as a terminating decimal.

91) $\frac{17}{5}$

92) $12\frac{3}{4}$

Using long division, write each rational number as a repeating decimal. Use bar notation to indicate the repeating digits.

93) $-\frac{1}{9}$

94) $\frac{34}{99}$

Evaluate each expression.

95) $-35 - 3 - (-25)$

96) $23 - 25$

97) $-19 - (-5)$

98) $-24 - 9$

99) $-14 - 2(-5)$

Evaluate the distance between each pair of integers.

100) 4 and -6

101) -20 and -8

102) 11 and -27

Solve.

103) Adam and Eric went hiking at different times. Adam is currently 73 feet above sea level while Eric is just starting at 24 feet below sea level. What is the difference in their elevations?

104) Determine the difference in elevation between the summit of Arkansas' Magazine Mountain, 2,753 feet above sea level, and Death Valley, California, 282 feet below sea level.

Compare each pair of numbers using $>$ or $<$. Draw a number line to help you.

105) $-(4 \cdot 5)$ _____ $-(7 \cdot 3)$

106) $-(24 \div 4)$ _____ $-(27 \div 3)$

Evaluate each product.

107) $3 \cdot (-9)$

108) $-11 \cdot (-10)$

109) $(6)(-2)(-5)$

Evaluate each quotient.

110) $60 \div (-3)$

111) $-90 \div 5$

112) $-200 \div (-4)$

Solve.

113) The temperature of a cup of warm water was at $52℃$. It slowly cools to room temperature at $25℃$ in 30 minutes. Find the change in temperature per minute.

114) The surrounding temperature of a town was $15℃$ at noon. The temperature drops to $-9℃$ at midnight. Find the change in temperature per hour from noon to midnight.

Evaluate each expression.

115) $15 - 42 \div (4 + 3)$

116) $6 + 4 \cdot (9 - 2) - 23$

117) $13 + 4 \cdot 8 - 7$

118) $-9 + (4 - 10) \cdot 6 \div 4$

119) $18 \div 3 + 12 - 7 \cdot 6$

120) $4 \cdot 11 - 7 \cdot 6 + 43$

121) $15 - (17 + 29) \div 4$

122) $100 - 36 \cdot (21 \div 7) + 15$

Evaluate each expression. Give your answer in simplest form.

123) $\frac{4}{9}+\left(-\frac{1}{2}\right)$

124) $-\frac{3}{4}+\left(-\frac{7}{8}\right)+\frac{5}{12}$

125) $\frac{7}{9}+\left(-\frac{1}{3}\right)$

126) $-2\frac{5}{6}+1\frac{1}{4}$

127) $-2\frac{3}{5}+1\frac{1}{3}$

128) $2\frac{5}{9}+1\frac{1}{6}-1\frac{2}{3}$

129) $-\frac{4}{5}-\frac{5}{7}$

130) $\frac{5}{6}-\left(-\frac{9}{10}\right)-\frac{4}{15}$

131) $\frac{5}{6}-\left(-\frac{2}{5}\right)$

132) $-1\frac{3}{8}-3\frac{1}{12}$

133) $4\frac{1}{2}-\left(-2\frac{6}{7}\right)$

134) $-\frac{5}{6}-\frac{9}{14}-\left(-\frac{8}{21}\right)$

135) $2\frac{4}{5}\cdot\left(-1\frac{3}{7}\right)$

136) $\frac{5}{7}\cdot\left(-\frac{2}{3}\right)$

137) $-\frac{2}{9}\cdot\frac{6}{11}$

138) $-\frac{7}{8}\div\frac{4}{11}$

139) $-1\frac{5}{6}\div\frac{6}{7}$

140) $2\frac{5}{8}\div\left(-1\frac{3}{4}\right)$

Evaluate each expression.

141) $3.62 + (-4.09)$

142) $-3.53 + 5.27$

143) $-1.04 - 9.56$

Evaluate each product.

144) $19.3 \cdot (-0.6)$

145) $5.39 \cdot (-0.6)$

146) $(-5.3) \cdot (-2.8)$

147) $(-22.9) \cdot (3.1)$

Evaluate each quotient.

148) $(-23.49) \div 0.9$

149) $11.36 \div (-1.6)$

150) $5.49 \div (-6.1)$

151) $-73.53 \div (0.9)$

152) $(-54.96) \div (1.2)$

Solve.

153) A tennis racket costs $58 plus 4% tax. How much does the racket cost?

Simplify each expression.

154) $-5p + 2p$

155) $-2q + (-6q)$

156) $6x + (-3x)$

157) $-2y + 6y$

158) $-9m + 2m$

159) $-3n + (-4n)$

Simplify each expression.

160) $\frac{1}{2}c + \frac{1}{4}c$

161) $0.2d + 0.5d$

162) $0.9a + (-1.9a)$

163) $-2.1c + 3.5c$

164) $\frac{3}{4}h + \left(-\frac{1}{2}h\right)$

165) $-\frac{1}{5}j + \frac{3}{10}j$

Simplify each expression.

166) $-5a - (-2a)$

167) $-2r - 6r$

169) $2.5a - 0.3a$

170) $-1.9b - (-2.9b)$

172) $-2.1d - 3.5d$

173) $-\frac{3}{4}k - \frac{1}{3}k$

168) $\frac{1}{2}y - \frac{1}{8}y$

171) $0.6c - (-1.5c)$

174) $-\frac{1}{5}m - \left(-\frac{4}{7}m\right)$

Simplify each expression.

175) $-3y-(-2y)-6$

176) $9a-5a+7-2$

177) $-3b+4b-3+2$

178) $\frac{2}{5}y+\frac{1}{5}y+4+7$

179) $9.9p-7+3-20p$

180) $12-\frac{2}{3}q+\frac{5}{9}q-20$



GREAT WORK!!!!
YOU HAVE OFFICIALLY COMPLETED YOUR 2026 MATH SUMMER PACKET!