

# ST. KATHARINE DREXEL PREP MATH DEPARTMENT

## SUMMER MATH PACKET 2020

**THIS PACKET IS FOR STUDENTS ENTERING:**

**ALGEBRA I**

**9<sup>TH</sup> GRADE STUDENTS**



**DIRECTIONS: IN ORDER TO RECEIVE MAXIMUM CREDIT:**

- **ALL PROBLEMS MUST BE COMPLETED.**
- **ALL WORK MUST BE SHOWN ON LOOSE LEAF PAPER AND MUST BE COMPLETED WITH A PENCIL ONLY. PAPERS WILL NOT BE GRADED IF THE WORK IS DONE WITH AN INK PEN.**
- **YOU MAY USE MATH WEBSITES SUCH AS KHAN ACADEMY FOR ASSISTANCE**

**DUE DATE: THE SUMMER MATH PACKET MUST BE SUBMITTED THE FIRST WEEK OF SCHOOL FOR A HOMEWORK GRADE. YOUR MATH TEACHER WILL SELECT PROBLEMS FROM THE MATH PACKET TO CREATE YOUR FIRST QUIZ IN YOUR MATH COURSE.**



- \_\_\_ 10.  $\frac{148}{264}$
- a.  $\frac{36}{66}$                       b.  $\frac{37}{64}$                       c.  $\frac{37}{66}$                       d.  $\frac{36}{64}$

**Write as a decimal.**

- \_\_\_ 11.  $\frac{1}{2}$
- a. 0.2                      b. 5                      c. 2                      d. 0.5
- \_\_\_ 12.  $4\frac{1}{12}$
- a. 16                      b. 0.3                      c. 4.083                      d. 0.083

**Write as a fraction in simplest form.**

- \_\_\_ 13. 0.32
- a.  $\frac{32}{99}$                       b.  $\frac{3}{10}$                       c.  $\frac{8}{25}$                       d.  $\frac{99}{32}$
- \_\_\_ 14. 0.111111...
- a.  $\frac{1}{10}$                       b.  $\frac{11}{100}$                       c.  $\frac{1}{9}$                       d.  $\frac{11}{1000}$

**Add or subtract. Write each answer in simplest form.**

- \_\_\_ 15.  $\frac{6}{10} + \frac{9}{10}$
- a.  $2\frac{7}{10}$                       b.  $5\frac{2}{5}$                       c.  $\frac{3}{4}$                       d.  $1\frac{1}{2}$
- \_\_\_ 16.  $\frac{5}{12} - \frac{3}{12}$
- a.  $\frac{1}{3}$                       b.  $\frac{1}{6}$                       c.  $\frac{1}{12}$                       d.  $\frac{2}{3}$
- \_\_\_ 17.  $\frac{1}{5} + \frac{2}{12}$
- a.  $\frac{29}{60}$                       b.  $\frac{1}{20}$                       c.  $\frac{11}{30}$                       d.  $\frac{3}{17}$
- \_\_\_ 18.  $\frac{2}{6} - \frac{1}{9}$
- a.  $\frac{4}{9}$                       b.  $\frac{1}{18}$                       c.  $\frac{1}{54}$                       d.  $\frac{2}{9}$

- \_\_\_ 19.  $6\frac{1}{3} + 5\frac{5}{6}$   
 a.  $11\frac{4}{27}$       b.  $12\frac{1}{6}$       c.  $11\frac{8}{15}$       d.  $12\frac{10}{27}$
- \_\_\_ 20.  $8\frac{3}{4} - 4\frac{1}{4}$   
 a.  $4\frac{1}{16}$       b.  $4\frac{9}{16}$       c.  $4\frac{1}{2}$       d.  $4\frac{1}{4}$

**Multiply or divide. Write your answer in simplest form.**

- \_\_\_ 21.  $\frac{3}{6} \times \frac{7}{10}$   
 a.  $\frac{7}{20}$       b.  $2\frac{1}{10}$       c.  $\frac{5}{7}$       d.  $3\frac{1}{2}$
- \_\_\_ 22.  $\frac{5}{12} \div \frac{2}{8}$   
 a.  $3\frac{1}{3}$       b.  $1\frac{2}{3}$       c. 20      d.  $\frac{5}{48}$
- \_\_\_ 23.  $1\frac{1}{3} \times 1\frac{5}{9}$   
 a.  $2\frac{25}{27}$       b.  $2\frac{2}{27}$       c.  $1\frac{5}{27}$       d.  $1\frac{2}{9}$
- \_\_\_ 24.  $1\frac{1}{3} \div 2\frac{1}{2}$   
 a.  $3\frac{1}{3}$       b.  $\frac{1}{3}$       c.  $1\frac{7}{8}$       d.  $\frac{8}{15}$

**Write as a percent.**

- \_\_\_ 25. 0.63  
 a. 0.063%      b. 6.3%      c. 630%      d. 63%
- \_\_\_ 26.  $\frac{1}{5}$   
 a. 50%      b. 5%      c. 20%      d. 2%
- \_\_\_ 27. Write 50% as a decimal.  
 a. 500      b. 5      c. 0.5      d. 5000
- \_\_\_ 28. Write 670% as a fraction or mixed number in simplest form.  
 a.  $\frac{10}{67}$       b. 67      c.  $6\frac{7}{10}$       d.  $\frac{1}{67}$
- \_\_\_ 29. Write  $9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9$  using an exponent.  
 a.  $99^7$       b.  $7^9$       c.  $9^7$       d.  $9 \cdot 7$

- \_\_\_ 30. Write  $5^2$  in standard form.  
a. 7                      b. 25                      c. 10                      d. 52

- \_\_\_ 31. Write 3954 in expanded form using powers of 10.  
a.  $(3^3) + (9^2) + (5^1) + (4^0)$   
b.  $(3 \cdot 10^3) + (9 \cdot 10^9) + (5 \cdot 10^5) + (4 \cdot 10^4)$   
c.  $(3 \cdot 1000^3) + (9 \cdot 100^2) + (5 \cdot 10^1) + (4 \cdot 1^0)$   
d.  $(3 \cdot 10^3) + (9 \cdot 10^2) + (5 \cdot 10^1) + (4 \cdot 10^0)$

**What is each number written in scientific notation?**

- \_\_\_ 32. 36,000,000  
a.  $3.6 \times 10^9$                       c.  $36 \times 10^6$   
b.  $3.6 \times 10^8$                       d.  $3.6 \times 10^7$
- \_\_\_ 33. -45,000,000  
a.  $4.5 \times 10^{-7}$                       c.  $-4.5 \times 10^7$   
b.  $-45 \times 10^6$                       d.  $45 \times 10^{-6}$
- \_\_\_ 34. 0.0000234  
a.  $2.34 \times 10^{-5}$                       c.  $234 \times 10^6$   
b.  $2.34 \times 10^{-6}$                       d.  $23.4 \times 10^5$

**What is each number written in standard notation?**

- \_\_\_ 35.  $3.6 \times 10^6$   
a. 3,600,000                      c. 36,000,000  
b. 360,000                      d. 36,000
- \_\_\_ 36.  $-3.84 \times 10^{-1}$   
a. -0.384                      c. -0.0000384  
b. 38,400,000                      d. 3,840,000
- \_\_\_ 37.  $6.49 \times 10^{-4}$   
a. 0.00649                      c. 0.000649  
b. -0.0649                      d. -0.0000649

**Find the product or quotient. Write the answer in scientific notation and in standard form. Round to the appropriate number of significant digits.**

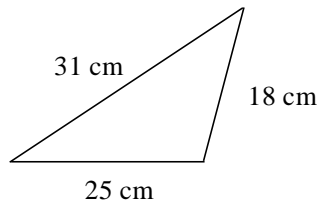
- \_\_\_ 38.  $(8.55 \times 10^2)(4.36 \times 10^{-4})$   
a.  $3.73 \times 10^{-6}$ ; 0.00000373                      c.  $3.73 \times 10^{-1}$ ; 0.373  
b.  $8.55 \times 10^{-1}$ ; 0.855                      d.  $1.291 \times 10^{-1}$ ; 0.1291

- \_\_\_ 39.  $(-8.35 \times 10^2)(3.14 \times 10^{-4})$   
a.  $-2.62 \times 10^{-6}$ ;  $-0.00000262$   
b.  $-8.35 \times 10^{-1}$ ;  $-0.835$   
c.  $-2.62 \times 10^{-1}$ ;  $-0.262$   
d.  $-5.21 \times 10^{-2}$ ;  $-0.521$

- \_\_\_ 40.  $(3.3 \times 10^2) \div (6.43 \times 10^3)$   
a.  $5.1 \times 10^{-2}$ ;  $0.051$   
b.  $2.122 \times 10^{-2}$ ;  $0.02122$   
c.  $6.43 \times 10^5$ ;  $0.0643$   
d.  $51 \times 10^1$ ;  $51$

**Find the perimeter of the figure.**

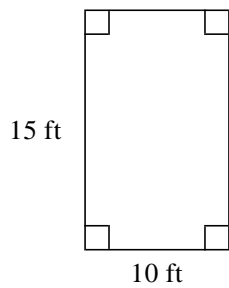
- \_\_\_ 41.



Drawing not to scale

- a. 74 cm                      b. 80 cm                      c. 68 cm                      d. 87 cm

- \_\_\_ 42.

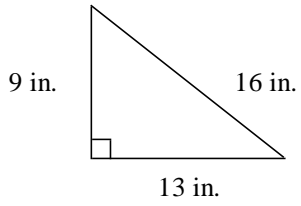


Drawing not to scale

- a. 25 ft                      b. 60 ft                      c. 50 ft                      d. 150 ft

**Find the area of the figure.**

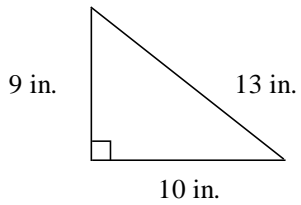
\_\_\_ 43.



Drawing not to scale

- a.  $38 \text{ in.}^2$       b.  $117 \text{ in.}^2$       c.  $468 \text{ in.}^2$       d.  $58.5 \text{ in.}^2$

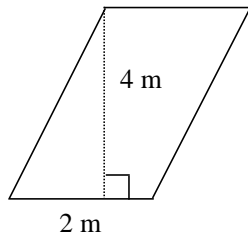
\_\_\_ 44.



Drawing not to scale

- a.  $45 \text{ in.}^2$       b.  $90 \text{ in.}^2$       c.  $32 \text{ in.}^2$       d.  $292.5 \text{ in.}^2$

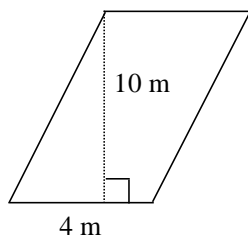
\_\_\_ 45.



Drawing not to scale

- a.  $8 \text{ m}^2$       b.  $16 \text{ m}^2$       c.  $4 \text{ m}^2$       d.  $12 \text{ m}^2$

\_\_\_ 46.

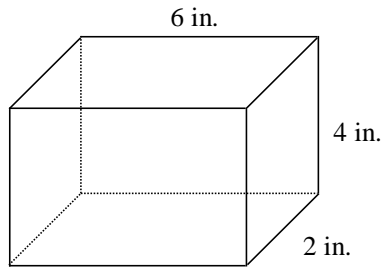


Drawing not to scale

- a.  $80 \text{ m}^2$       b.  $28 \text{ m}^2$       c.  $20 \text{ m}^2$       d.  $40 \text{ m}^2$

**Find the volume of the solid. Round to the nearest tenth if necessary. .**

\_\_\_ 47.



Drawing not to scale

- a.  $24 \text{ in.}^3$       b.  $96 \text{ in.}^3$       c.  $48 \text{ in.}^3$       d.  $16 \text{ in.}^3$

**Complete each statement.**

\_\_\_ 48.  $0.77 \text{ m} =$        $\text{cm}$

- a. 770      b. 0.077      c. 7.7      d. 77

\_\_\_ 49.  $4087 \text{ mL} =$        $\text{L}$

- a. 408.7      b. 40.87      c. 4.087      d. 40,870

\_\_\_ 50.  $9 \text{ ft} =$        $\text{in.}$

- a. 27      b. 36      c. 90      d. 108

\_\_\_ 51.  $468 \text{ in.}^2 =$        $\text{ft}^2$

- a.  $\frac{4}{13}$       b.  $3\frac{1}{4}$       c.  $19\frac{1}{2}$       d. 39

**Simplify.**

\_\_\_ 52.  $10^2$

- a. -20      b. 100      c. -100      d. 20

\_\_\_ 53.  $(-18)^2$

- a. -324      b. 324      c. -36      d. 36

\_\_\_ 54.  $\sqrt{49}$

- a. 7      b. 25      c. 98      d. 8



**Solve. Round to the nearest tenth if necessary.**

- \_\_\_ 55.  $8^2 + 15^2 = x^2$   
a.  $\pm 289$                       b.  $\pm 120$                       c.  $\pm 17$                       d.  $\pm 46$

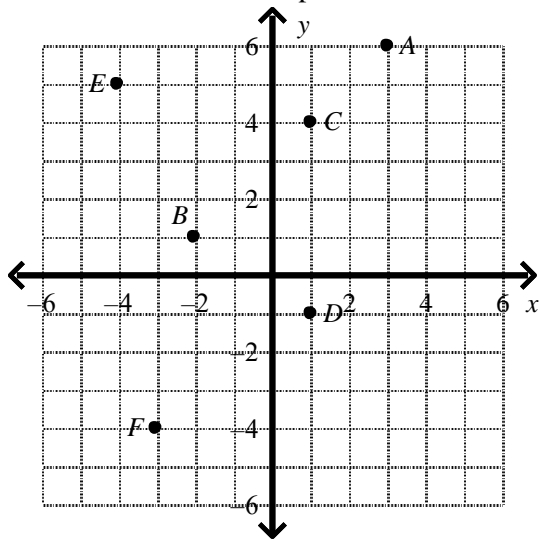
**Simplify the expression.**

- \_\_\_ 56.  $-4x - 6x - 1 - 5$   
a.  $2x + 4$                       b.  $-10x + 4$                       c.  $-10x - 6$                       d.  $2x - 6$

**Simplify each expression.**

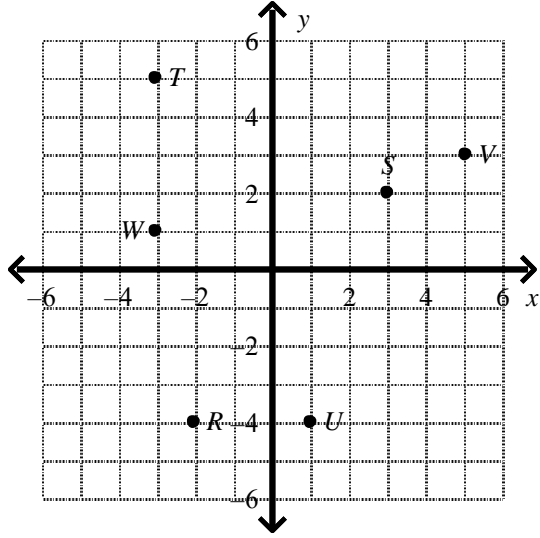
- \_\_\_ 57.  $-3|9 + 3|$   
a.  $-36$                       b.  $12$                       c.  $36$                       d.  $-12$
- \_\_\_ 58.  $|-20 - 11|$   
a.  $30$                       b.  $-30$                       c.  $31$                       d.  $-31$
- \_\_\_ 59.  $|6| - |-11|$   
a.  $-5$                       b.  $17$                       c.  $5$                       d.  $-17$

- \_\_\_ 60. Name the coordinates of point  $E$ .



- a.  $(4, 5)$                       b.  $(5, -4)$                       c.  $(-4, 5)$                       d.  $(-4, -5)$

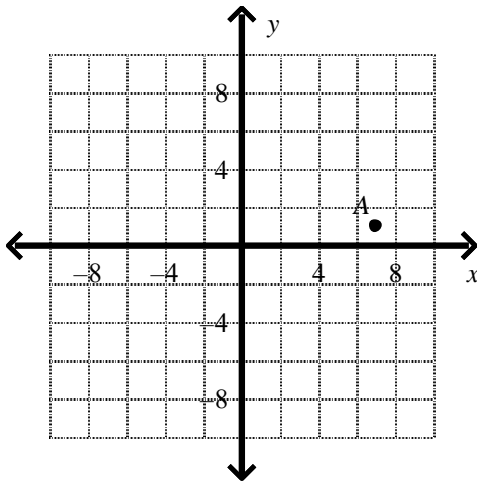
\_\_\_ 61. Name the coordinates of point  $S$ .



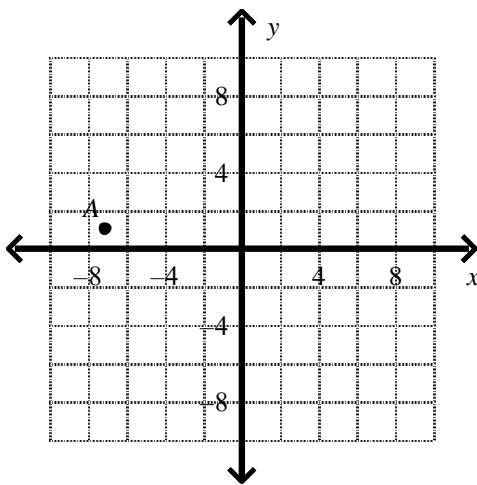
- a.  $(3, 2)$       b.  $(3, -2)$       c.  $(2, 3)$       d.  $(-3, 2)$

\_\_\_ 62. Graph point  $A(-7, -1)$ .

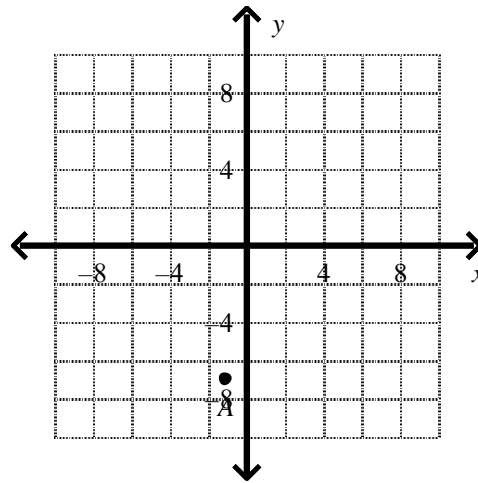
a.



b.



c.



d.

