

ST. KATHARINE DREXEL PREP MATH DEPARTMENT
SUMMER MATH PACKET 2021-2022

THIS PACKET IS FOR STUDENTS ENTERING:

ALGEBRA I

9TH 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. $1\frac{1}{67}$
- ___ 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. 3.6×10^9 c. 36×10^6
b. 3.6×10^8 d. 3.6×10^7
- ___ 33. -45,000,000
a. 4.5×10^{-7} c. -4.5×10^7
b. -45×10^6 d. 45×10^{-6}
- ___ 34. 0.0000234
a. 2.34×10^{-5} c. 234×10^6
b. 2.34×10^{-6} d. 23.4×10^5

What is each number written in standard notation?

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

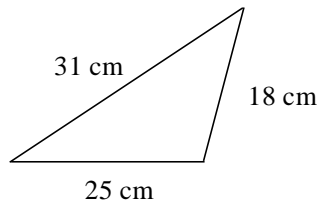
Find the product or quotient. Write the answer in scientific notation and in standard form. Round to the appropriate number of significant digits.

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

- ___ 39. $(-8.35 \times 10^2)(3.14 \times 10^{-4})$
a. -2.62×10^{-6} ; -0.00000262
b. -8.35×10^{-1} ; -0.835
c. -2.62×10^{-1} ; -0.262
d. -5.21×10^{-2} ; -0.521
- ___ 40. $(3.3 \times 10^2) \div (6.43 \times 10^3)$
a. 5.1×10^{-2} ; 0.051
b. 2.122×10^{-2} ; 0.02122
c. 6.43×10^5 ; 0.0643
d. 51×10^1 ; 51

Find the perimeter of the figure.

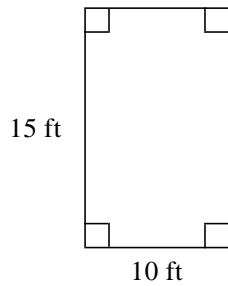
___ 41.



Drawing not to scale

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

___ 42.

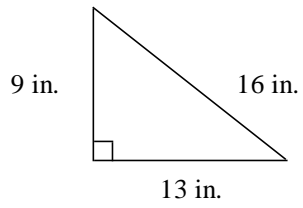


Drawing not to scale

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

Find the area of the figure.

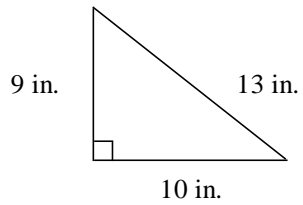
___ 43.



Drawing not to scale

- a. 38 in.^2 b. 117 in.^2 c. 468 in.^2 d. 58.5 in.^2

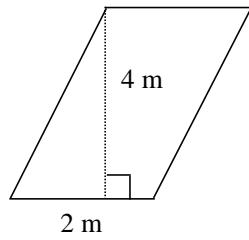
___ 44.



Drawing not to scale

- a. 45 in.^2 b. 90 in.^2 c. 32 in.^2 d. 292.5 in.^2

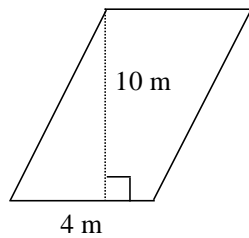
___ 45.



Drawing not to scale

- a. 8 m^2 b. 16 m^2 c. 4 m^2 d. 12 m^2

___ 46.

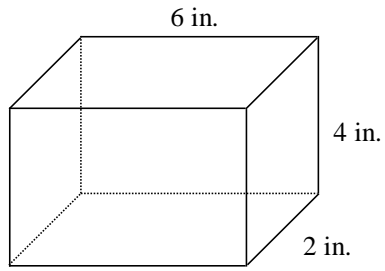


Drawing not to scale

- a. 80 m^2 b. 28 m^2 c. 20 m^2 d. 40 m^2

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

___ 47.



Drawing not to scale

- a. 24 in.^3 b. 96 in.^3 c. 48 in.^3 d. 16 in.^3

Complete each statement.

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

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

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

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

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

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

___ 51. $468 \text{ in.}^2 =$ 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. ± 289 b. ± 120 c. ± 17 d. ± 46

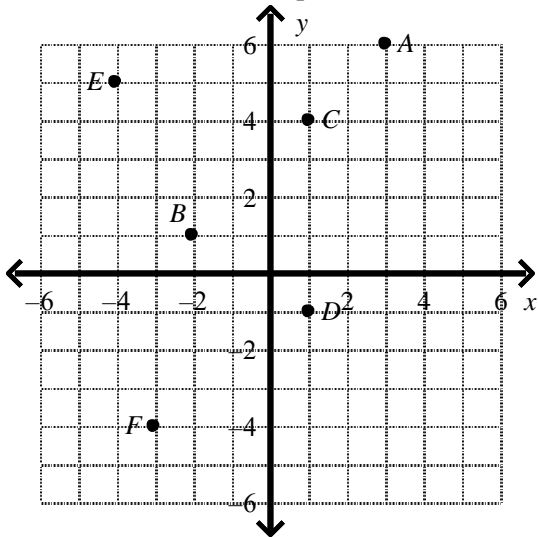
Simplify the expression.

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

Simplify each expression.

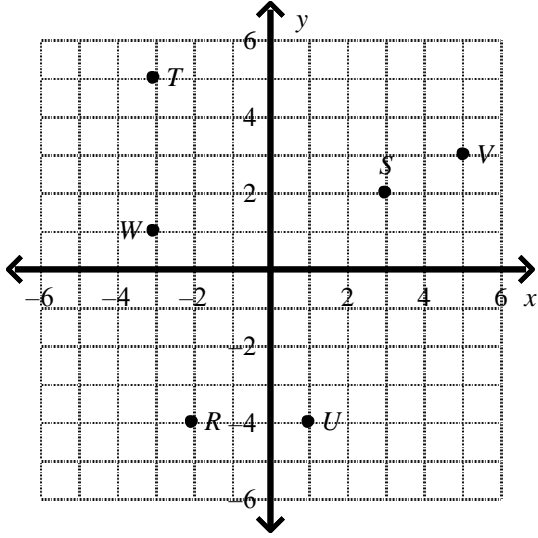
- ___ 57. $-3|9 + 3|$
a. -36 b. 12 c. 36 d. -12
- ___ 58. $|-20 - 11|$
a. 30 b. -30 c. 31 d. -31
- ___ 59. $|6| - |-11|$
a. -5 b. 17 c. 5 d. -17

- ___ 60. Name the coordinates of point E .



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

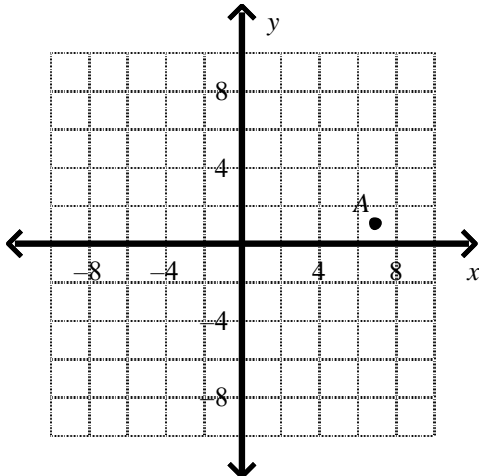
61. Name the coordinates of point S .



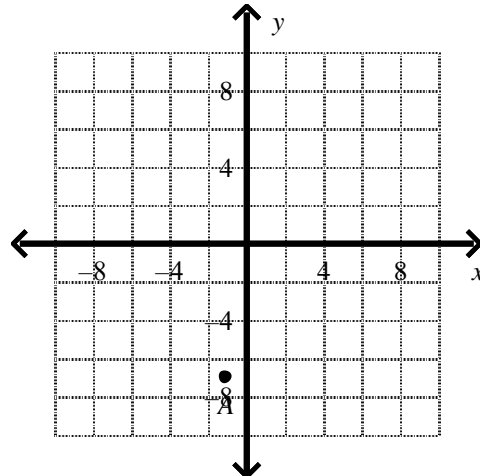
- a. $(3, 2)$ b. $(3, -2)$ c. $(2, 3)$ d. $(-3, 2)$

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

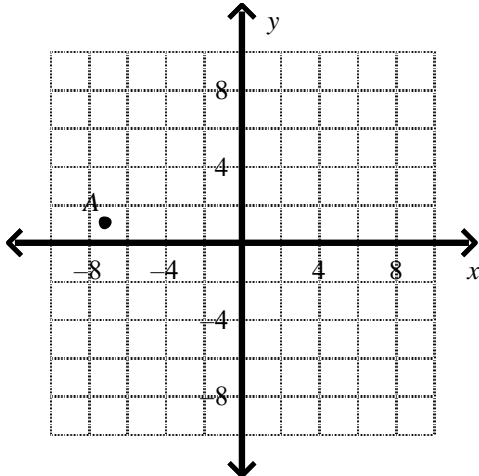
a.



c.



b.



d.

