May 2025

This packet is for students entering **8th grade** or **7th Accel Math** for the 2025–2026 school year.

- If this packet gets lost, there will be a link on the Gurrie Website > Students.

Research studies have shown that during an extended summer vacation, children lose an average of 2.6 months worth of knowledge. This packet is a tool that can be used to keep students working and motivated to continue their math learning during these summer months. Your student should work on this packet *a little each week* over the long vacation.
In addition to the packet, your student also has the ability to log into their ALEKS account throughout the summer. (ALEKS is a weekly assignment for ALL Gurrie students). Students are recommended to complete 90% of their topics from Course 1 (current program).

As a reward, students that correctly complete (and show all work) in the packet and reach 90% completion on their ALEKS topics by the first day of school will earn a surprise.

Good Luck and have a wonderful summer vacation!

Thank you,
Gurrie Middle School
8th Grade Math Department
Ms. Neadly, Ms. Garcia, & Ms. Courtney

ILLINOIS Assessment of Readiness

Assessment Reference Sheet

Grade 7

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilograms
1 kilogram = 2.2 pounds
1 ton = 2000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallons
1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$

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Name: _____

C2

Seventh Grade Summer Packet

For Students Entering 8th Grade or 7th Grade Advanced Math

Write each number in scientific notation.

1.) 45,000,000 _____ 2.) 0.000014 _____

Write each number in standard form.

3.) $2.9 \cdot 10^{6}$ _____

4.) $7.86 \cdot 10^{-2}$ _____

Simplify each expression. (NO CALCULATOR!)

5.) -2 + (-13) = _____

6.) 12 + (-45) = _____

7.) 17 - (-14) = _____

8.) -14 - 17 = _____

9.) -14 + 14 = _____

10.) 16(-4) = _____

11.) -15(-9) = _____

12.) 75 ÷ (-3) = _____

13.) -256/-16 = _____

14.) 14 ÷ (-2) + 6 = _____

15.) -25 ÷ (-5) · 2 = _____

16.) 28 ÷7(5) = _____

17.) 35 ÷ 5 + 56 ÷ 7 = _____

18.) 10 - (3 + 5) = _____

19.) 3 · 4(5 - 3.8) + 2.7 = _____

Solve & Check each equation. Box your answer. SHOW ALL OF YOUR WORK! (NO CALCULATOR!)

20.) $-7y + 3 = -25$

21.) $4 = 4 + 7y$

Check:

Check:

22.) $6r + 1 = -17$

23.) $\frac{n}{-4} + 5 = -1$

Check:

Check:

Translate into an equation and solve. (NO CALCULATOR!)

24.) Three more than the product of a number and 4 is 15. Find the number.

Equation: _____ **Solution:** _____

Show work here:

25.) Emily has saved $74 toward a new sound system that costs $149. She plans on saving an additional $15 each week. How many weeks will it take Emily to save enough money to buy the sound system? Write an equation and then solve it.

Equation: _____ **Solution:** _____

Show work here:

Write each ratio as a fraction in simplest form. (NO CALCULATOR!)

26.) 12 feet: 10 yards

27.) 75 seconds: 2 minutes

_____

_____

Find the unit rate. Round to the nearest hundredth if necessary. Include labels with your answers. Show all of your work. (CALCULATOR ALLOWED)

28.) 18 people in 3 vans

29.) 2500 Calories in 24 hours

_____

_____

Choose the best unit price. Show all of your work! (CALCULATOR ALLOWED)

30.) $12.95 for 3 pounds of candy or $21.45 for 5 pounds of candy

ANSWER: _____

Find the actual distance between each pair of cities. Round to the nearest tenth if necessary. Show all work. (CALCULATOR ALLOWED)

Problem #	Cities	Map Distance	Scale	Actual Distance
31.)	Kokomo, IN and Chicago, IL	8 cm	1 cm = 25 km	

Work Space for #31:

32.) The scale is 2 inches: 4 feet, find the scale factor.

Complete the table. (CALCULATOR ALLOWED)

Problem #	Fraction in simplest form	Decimal	Percent
33.)			12.5%
34.)			$8\frac{1}{4}\%$
35.)		0.55	
36.)	$\frac{5}{8}$		

Find each number. Round to the nearest tenth if necessary.
(CALCULATOR ALLOWED)

37.) 45 is 150% of what number?

38.) What percent of 60 is 15?

_____ _____

39.) What is the total cost of a sweatshirt if the regular price is $42 and the sales tax is $5\frac{1}{2}\%$?

ANSWER: _____

40.) Aubrey wants to buy a new coat that has a regular price of $185. This weekend, the coat is on sale at a 33% discount. What is the sale price of the coat?

ANSWER: _____

41.) A sports watch with an original price of $86 is on sale for $60.20. What is the percent of discount?

ANSWER: _____

42.) Suppose your restaurant bill comes to $28.35. Find your total cost if the tax is 6.25% and you leave a 20% tip on the amount before tax.

ANSWER: _____

Find the percent of change. Round to the nearest whole percent and state whether the percent of change is an *increase* or *decrease*. (CALCULATOR ALLOWED)

43.) original: 4
new: 6

_____

Find the simple interest for each principal, rate, and time. Round to the hundredths place. (CALCULATOR ALLOWED)

44.) $500 invested at $6\frac{1}{4}\%$ for 5 years

45.) $769 borrowed at 5% for 13 months

_____

_____

46.) Joey opened a saving account that pays 6.5% simple interest. How much money will be in Joey's account after 3 years if he deposited $250 at the beginning and never made any deposits or withdraws?

ANSWER: _____

47.) Joe has $1,800 from his summer job to invest. If Joe wants to have $2,340 altogether and invests the money at 5% simple interest, in how many years will be have $2,340?

ANSWER: _____

Solve the following proportions. SHOW ALL OF YOUR WORK! (CALCULATOR ALLOWED)

48.) $\frac{3}{d} = \frac{12}{20}$

49.) $\frac{7}{8} = \frac{m}{48}$

_____ _____

50.) A train travels 146 miles in 2 hours, at this rate how many miles will it travel in 3.5 hours?

ANSWER: _____

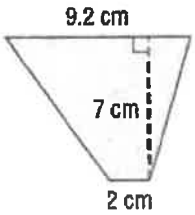
51.) An architect built a model of a 220-foot building that he is designing. The model is 25 inches tall and 10 inches wide, how wide is the actual building?

ANSWER: _____

Find the area of the following shapes. Include appropriate units and round your answer to the nearest tenth if necessary. SHOW ALL OF YOUR WORK! (CALCULATOR ALLOWED)

52.) A parallelogram with base = $4\frac{2}{5}$ feet and height = 5 feet. _____

53.)



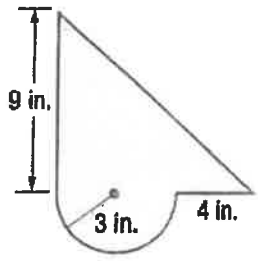
_____

54.) trapezoid with
bases: 7 yd and 8 yd
height: 8.5 yd

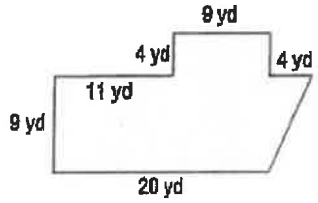
_____

Find the area of the following shapes. Include appropriate units and round your answer to the nearest tenth if necessary. SHOW ALL OF YOUR WORK! (CALCULATOR ALLOWED)

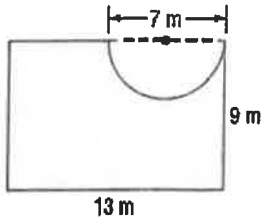
55.)



56.)



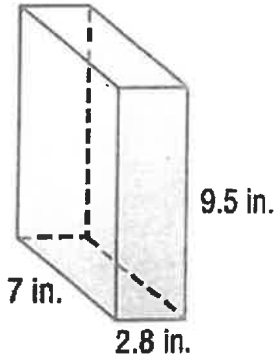
57.)



_____ _____ _____

Find the *surface area* and *volume* of each of the following. Include appropriate units and round to the nearest tenth. SHOW ALL OF YOUR WORK! (CALCULATOR ALLOWED)

58.)



Surface Area: _____

Volume: _____

59.) The cargo-carrying part of Billy's truck has a length of 8.3 meters, a width of 3 meters, and a height of 4.2 meters. What is the maximum volume of sand that Billy's truck can carry?

ANSWER: _____

60.) A packaging company needs to know how much cardboard will be required to make boxes 18 inches long, 12 inches wide, and 10 inches high. How much cardboard will be needed for each box if there is no overlap in the construction?

ANSWER: _____

61.) How much frosting will be needed to frost a cake that is a rectangular prism with the length of 13 inches, a width of 10 inches, and a height of 4 inches?

ANSWER: _____