2024

Summer Math Packet

Entering

Grade 7

This packet encompasses the skills you learned in 6th grade and will help ensure you are prepared to enter 7th grade in September. Make sure to read the directions for each question carefully. You **MUST** show all your work for your effort grade. If you do your work on another sheet of paper, make sure to attach that to the end of the packet when you hand it to your teacher in September.

You will receive ***two grades*** for the math packet for the new school year so make sure to do your best! One grade is based on effort and the other is accuracy. Effort is showing your work and it is completed. Accuracy is the amount correct.

Due Date: Monday, September 9th, 2024

Good luck and have a wonderful summer!

The Math Department

Name _____

Grade **6**
Progress Monitoring
Assessment Form C

1. Which list of numbers is ordered from greatest to least?

A. $-7\frac{1}{2}, \left|7\frac{1}{3}\right|, 7.31, -7$

B. $\left|7\frac{1}{2}\right|, 7.31, -7, -7\frac{1}{3}$

C. $7.31, \left|7\frac{1}{2}\right|, -7\frac{1}{2}, -7$

D. $\left|-7\frac{1}{2}\right|, |-7|, 7.31, \left|7\frac{1}{2}\right|$

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2. Danna is buying breakfast cereal for a sleepover. She can buy 12-oz boxes for $3.00 each or 17-oz boxes for $3.57 each. Which is the better value? Explain.

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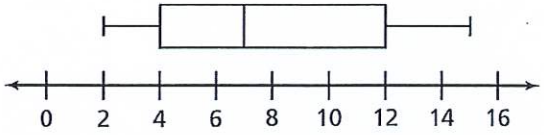
3. Find the following measures of the data set shown in the box plot below.



minimum: ☐

maximum: ☐

median: ☐

first quartile: ☐

third quartile: ☐

interquartile range: ☐

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4. Choose all of the equations that are true if $3x = 4$.

☐ $42.1 - 38.1 = x$

☐ $x + \frac{2}{3} = 2$

☐ $\frac{9}{2}x = 6$

☐ $12 + x = 16$

☐ $5x = 15$

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5. Select all the pairs of expressions that are equivalent.

☐ $9(c + 4)$ and $9c + 36$

☐ $4(5y - 3)$ and $20y - 3$

☐ $6(8r - 7)$ and $48r + 42$

☐ $14 + 28w$ and $7(2 + 4w)$

☐ $16(2 - a)$ and $32 - 16a$

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6. Which of the following is a statistical question?

A. How many days a week do students in your class take the bus to school?

B. What is the cost of one item if a package of 8 costs $4.80?

C. What is your favorite food?

D. What is the perimeter of a triangle with sides 5 cm, 8 cm, and 7 cm?

7. A pet sitter charges $12 per day for taking care of a pet.

Part A

Complete the table to show how the total amount of money the pet sitter charges, A, and the number of days worked, d, are related.

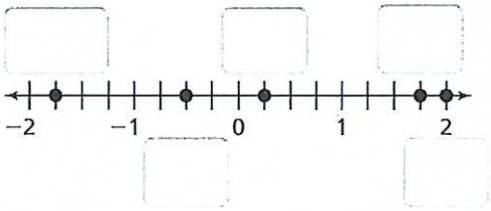
d	2	4	7
A			

Part B

Write an equation to represent the relationship between the number of days the worked and how much the pet sitter charges.

8. Fill in the boxes to plot the five rational numbers below on the number line.

$\frac{8}{4}, -\frac{4}{8}, -1.75, 0.25, \frac{7}{4}$



9. Eli had a negative bank balance of $25 at the beginning of September and a negative balance of $20 in October. Which integer represents the greater debit in his bank account?

A. –20 **C.** –25

B. 20 **D.** 25

10. Thomas is making fruit punch for a party. The recipe calls for $\frac{5}{8}$ gallon of orange juice to make a full pitcher of punch.

Part A

How many full pitchers of punch can Thomas make with 2 gallons of orange juice? Explain.

Part B

How many more gallons of orange juice would Thomas need to make 5 pitchers of punch? Explain.

11. Bella is making a box in the shape of a cube. She wants to make sure the surface area is at least 200 cm^2. Use the formula $A = 6s^2$, where A is the surface area, and s is the side length. Which of following side lengths would create a cube large enough for Bella's requirements?

A. 5 cm or greater

B. 6 cm or greater

C. 7 cm or greater

D. 8 cm or greater

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12. An animal shelter had 45 animals adopted over one week. The ratio of dogs to ferrets was 5 : 1. The ratio of cats to dogs was 9 : 5.

Part A

Draw a diagram or make a table to represent the types of animals adopted.

Part B

How many of each type of animals were adopted?

_____ Ferrets

_____ Dogs

_____ Cats

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13. Use the boxed coordinates to write the reflection across the y-axis of each point on the left.

(2,–4)	(5, 2)
(–4, –3)	(6, 1)

(4, –3) _____

(–6, 1) _____

(–2, –4) _____

(–5, 2) _____

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14. Select all the expressions that have a value equivalent to $4^3 + 1 - 15$.

☐ $(100 \div 5) + 5^2$

☐ $(7^2) + 2^2 - 3$

☐ $-|-20|$

☐ $|-22| + 7(2^2)$

☐ $(8^2 - 6^2) + 7$

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15. Find each difference.

$25 - 8.1 =$ _____

$23.2 - 5.6 =$ _____

$19.3 - 2.92 =$ _____

$30.18 - 7 =$ _____

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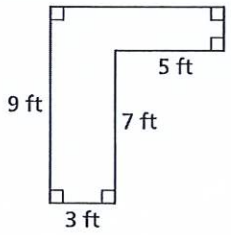
16. What is the area of this hexagon?



A. 31 ft^2

B. 28 ft^2

C. 43 ft^2

D. 37 ft^2

17. Joshua weighs 52.16 kilograms and his older brother weighs 56,971.2 grams. How much heavier is Joshua's older brother?

A. 56,919.04 kg **C.** 48.112 kg

B. 4.8112 kg **D.** 5.691904 kg

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18. Laila used a coordinate plane to show the locations of birdfeeders in her backyard. Three birdfeeders are located at $A(-4, 6)$, $B(1, 6)$, and $C(1, 1)$.

Use absolute values of coordinates to find the distances between points A and B, and between points B and C. Show your work.

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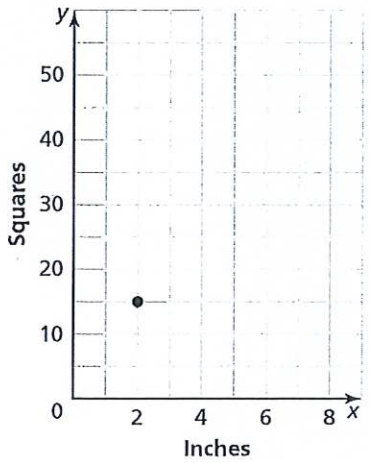
19. Complete the table using the ratio given. Then, graph the missing pairs of values.

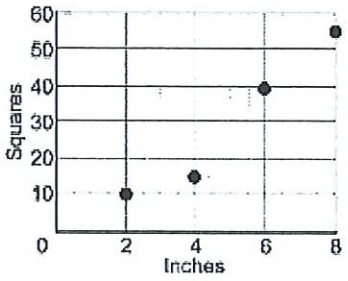
Part A:

Inches	2		6	
Squares	15	30		60

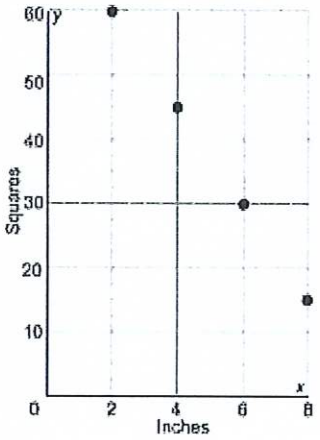


Part B: Choose the graph that shows the missing pairs of values.

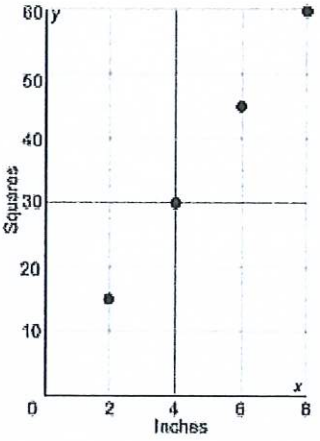
A.



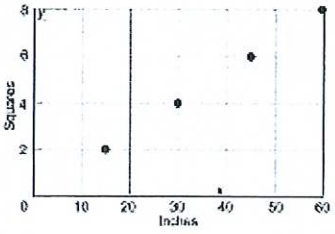
B.



C.



D.



20. Find the volume of a rectangular prism with $l = 4\frac{1}{4}$ m, $w = 3\frac{1}{2}$ m, and h = 2 m, in cubic meters.

A. $24\frac{1}{8}$ **C** 24

B. $25\frac{1}{5}$ **D** $29\frac{3}{4}$

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21. The speed limit in Chloe's neighborhood is 35 mph. Which inequality represents legal driving speeds, v, in her neighborhood?

A. $v < 45$ **C.** $v > 45$

B. $v > 35$ **D.** $v < 35$

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22. The high temperatures for two towns are shown below, in degrees Fahrenheit.

Hilltown: 60, 55, 52, 50, 54

Meadowdale: 72, 60, 75, 62, 68

Select all of the statements that are true.

- ☐ For both sets of data, the median is equal to the mean.
- ☐ The median is greater for the Meadowdale temperatures than for the Hilltown temperatures.
- ☐ The mean absolute deviation (MAD) is greater for the Hilltown temperatures than for the Meadowdale temperatures.
- ☐ The interquartile range (IQR) is smaller for the Hilltown temperatures than for the Meadowdale temperatures.
- ☐ The numbers for the Hilltown temperatures are more spread out than for the Meadowdale temperatures

23. William mowed 75% of the lawn in 33 minutes.

Part A

Which equation can be used to find how many minutes it will take for William to mow the whole lawn if he continues at the same rate?

A. $75n = 33$

C. $0.33n = 75$

B. $\frac{33}{n} = 75$

D. $\frac{75n}{100} = 33$

Part B

How many minutes will it take for William to mow the whole lawn?

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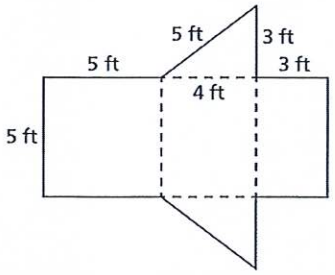
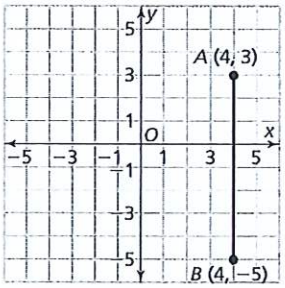
24. Charlotte used the net shown to design a ramp. She can build the ramp using plywood that costs $1.50 per square foot or heavier wood that costs $2.20 per square foot. How much more would it cost Charlotte to use the heavier material? Explain.



25. The points A (4, 3) and B (4, -5) are plotted on the coordinate plane. Make a rectangle that has points C and D as two of its vertices and has a perimeter of 30 units.

Draw and label the two other vertices as points C and D. Draw line segments to show the rectangle. Write the coordinates.



C: (____ , ____)

D: (____ , ____)

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26. Cameron has a bank account balance of $35.50. Phil has a bank account balance of -$36.50. Ella has a bank account balance of -$30.98. Which of the following statements are true?

Select all that apply.

- ☐ Phil has the most money in his bank account.
- ☐ Ella's balance is closest to zero.
- ☐ Cameron has the most money in his bank account.
- ☐ Phil's balance is greater than Ella's balance.
- ☐ Cameron's balance is closer to zero than Phil's balance.

27. Michael earned the following test scores:

77, 80, 82, 99, 91, 80, 80

Which two measures for this data set are closest in value?

A. median, mode

B. mode, mean

C. mean, median

D. mode, range

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28. A bike and helmet are on sale for 15% off. The regular price of the bike is $220. The regular price of the helmet is $40.

Part A

Find the sale price of the bike. Explain.

Part B

Tiana wants to buy both the bike and the helmet. How much will she pay if she buys them during the sale?

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29. The measurements of a circular object are given in the ratio table. Find the missing dimensions of other circular objects by completing the ratio table.

Diameter, d	Circumference, C
8 in.	25 in.
	50 in.
30 in.	

30. Crestview has a low temperature of –5°C. St. Augustine has a low temperature of 7°C. The low temperature in Tallahassee is warmer than Crestview but colder than St. Augustine. Select all the values that could represent the low temperature in Tallahassee.

- ☐ 8°C
- ☐ 4°C
- ☐ 0°C
- ☐ –4°C
- ☐ –8°C

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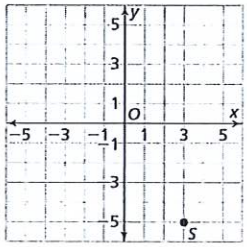
31. Which ordered pair locates point S on the coordinate plane?



A. (3, –5)

B. (–5, 3)

C. (–5, –3)

D. (–3, –5)

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32. Lillian is cutting wood. She cuts a $4\frac{3}{4}$-inch section from a board and there is a $19\frac{1}{4}$-inch section remaining. Which equation represents the original length, b, of the board?

A. $b - 4\frac{3}{4} = 19\frac{1}{4}$

B. $\frac{19}{4}b = 19\frac{1}{4}$

C. $b + 4\frac{3}{4} = 19\frac{1}{4}$

D. $19\frac{1}{4} - b = 4\frac{3}{4}$

33. Mathew wants to rent a jet ski for a day. It will cost him $125 per hour plus a $10 fee for a life jacket.

Part A

Let h = the number of hours Mathew rents the jet ski. Write an expression that shows the total amount he will pay.

Part B

Evaluate the expression you wrote to find the amount Mathew will pay if he rents the jet ski for 3 hours.

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34. Use the expression shown below.

$15 - 9 \div (4k + 1)$

Complete the table by writing the parts of the expression that correspond to the descriptions.

Description of Part	Part of Expression
Variable	
Sum	
Quotient	
Coefficient	

35. Jack picked a pounds of apples, p pounds of pears, and s pounds of strawberries. The fees are $6 for entry to the u-pick farm, $1.50 per pound for apples, $2.50 per pound for pears, and $4.00 per pound for strawberries.

Part A

Jack picks apples and pears. Write an expression to represent how much he pays.

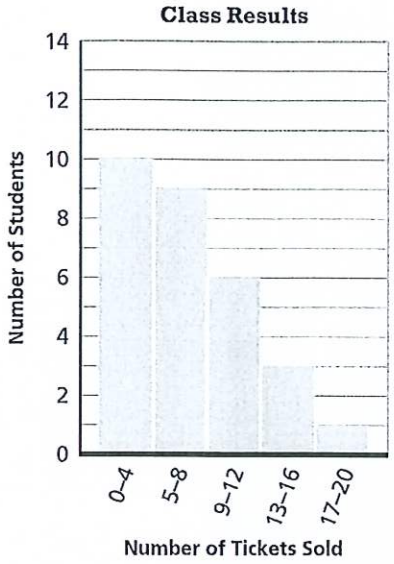
Part B

Marta goes to the same farm but picks only strawberries. Write an expression to represent how much she pays.

Part C

Using the expressions from Parts A and B, when would Jack pay as much for picking apples and pears as Marta does for picking strawberries? Explain.

36. Mr. Chen recorded the number of tickets each student in his class sold for the school musical. Select all the statements that descrbe the data.



- ☐ More than half the students sold at least 5 tickets.
- ☐ The tallest bar represents the most ticket sales.
- ☐ Four students sold at least 13 tickets.
- ☐ The graph displays the total number of tickets sold.
- ☐ There are 29 students in the class.

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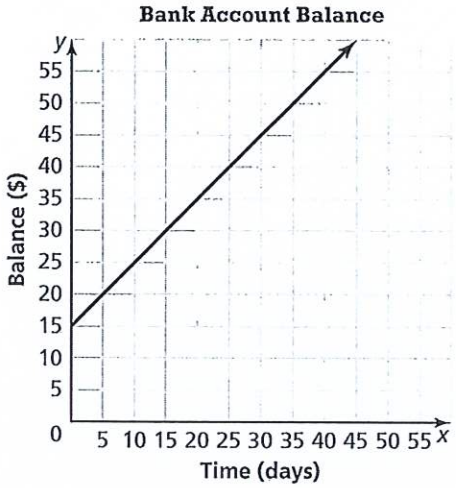
37. A cyclist rides 4 mi in 20 min. Is the rate of this cyclist greater than, less than, or equal to the rate of a cyclist who rides 6 mi in 30 min?

38. Let x represent time in days. Let y represent the balance in a bank account in dollars. Which equation represents the relationship between x and y in the graph?



A. $y = 2x + 15$ **C.** $y = 15x$

B. $y = 15x + 15$ **D.** $y = x + 15$

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39. Alison measures the diameter of a circle and finds it is about 10 in. How can she compute the circumference of the circle?

A. Divide the diameter by π.

B. Divide the diameter in half then multiply by π.

C. Multiply the diameter by π.

D. Divide the diameter in half, then multiply by π.

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40. What is the value of 5012 ÷ 14?

Multiplication facts 2-12

Math Drills Worksheet

3 × 2	9 × 5	10 × 10	7 × 12	11 × 3	10 × 2	4 × 8	11 × 12	6 × 5	6 × 4
12 × 8	4 × 6	6 × 10	2 × 4	2 × 6	3 × 5	6 × 7	12 × 4	6 × 11	3 × 8
10 × 8	6 × 2	3 × 7	7 × 3	7 × 11	3 × 3	3 × 6	5 × 9	11 × 10	11 × 11
11 × 5	5 × 4	11 × 6	12 × 6	9 × 7	11 × 8	5 × 7	11 × 9	6 × 6	10 × 9
8 × 11	4 × 3	10 × 7	7 × 10	4 × 9	2 × 10	6 × 8	12 × 5	8 × 12	11 × 2
7 × 8	9 × 10	8 × 10	3 × 12	12 × 11	5 × 3	2 × 2	8 × 4	9 × 2	8 × 2
6 × 12	3 × 11	11 × 7	2 × 7	4 × 2	8 × 9	12 × 10	10 × 3	8 × 8	9 × 11
2 × 9	9 × 9	4 × 5	2 × 5	3 × 9	2 × 11	7 × 7	11 × 4	10 × 6	10 × 5
7 × 4	5 × 10	12 × 3	5 × 6	9 × 4	9 × 8	5 × 12	9 × 3	4 × 10	5 × 8
8 × 6	4 × 7	9 × 12	10 × 4	6 × 3	7 × 5	6 × 9	8 × 5	7 × 6	3 × 10

Division facts (dividends up to 144)

Division Practice Worksheet

63 ÷ 7 =	99 ÷ 11 =	132 ÷ 11 =	64 ÷ 8 =	14 ÷ 2 =
9 ÷ 1 =	96 ÷ 8 =	33 ÷ 11 =	27 ÷ 3 =	110 ÷ 11 =
9 ÷ 3 =	48 ÷ 12 =	63 ÷ 9 =	18 ÷ 2 =	60 ÷ 6 =
16 ÷ 8 =	4 ÷ 2 =	49 ÷ 7 =	2 ÷ 1 =	11 ÷ 1 =
99 ÷ 9 =	90 ÷ 10 =	88 ÷ 11 =	54 ÷ 6 =	48 ÷ 6 =
50 ÷ 10 =	72 ÷ 9 =	5 ÷ 1 =	110 ÷ 10 =	12 ÷ 3 =
40 ÷ 8 =	100 ÷ 10 =	81 ÷ 9 =	66 ÷ 11 =	3 ÷ 3 =
54 ÷ 9 =	10 ÷ 5 =	48 ÷ 4 =	36 ÷ 4 =	50 ÷ 5 =
56 ÷ 7 =	4 ÷ 4 =	24 ÷ 4 =	40 ÷ 10 =	20 ÷ 10 =
48 ÷ 8 =	10 ÷ 2 =	77 ÷ 11 =	6 ÷ 2 =	12 ÷ 4 =
55 ÷ 11 =	7 ÷ 1 =	70 ÷ 10 =	36 ÷ 3 =	32 ÷ 8 =
10 ÷ 1 =	22 ÷ 11 =	40 ÷ 5 =	18 ÷ 9 =	108 ÷ 9 =
33 ÷ 3 =	55 ÷ 5 =	6 ÷ 3 =	42 ÷ 7 =	4 ÷ 1 =
72 ÷ 8 =	30 ÷ 3 =	8 ÷ 1 =	120 ÷ 12 =	14 ÷ 7 =
66 ÷ 6 =	108 ÷ 12 =	10 ÷ 10 =	15 ÷ 5 =	22 ÷ 2 =
72 ÷ 12 =	84 ÷ 12 =	40 ÷ 4 =	8 ÷ 8 =	20 ÷ 2 =
121 ÷ 11 =	44 ÷ 4 =	8 ÷ 2 =	90 ÷ 9 =	132 ÷ 12 =
18 ÷ 3 =	30 ÷ 6 =	20 ÷ 5 =	88 ÷ 8 =	21 ÷ 7 =
27 ÷ 9 =	60 ÷ 10 =	20 ÷ 4 =	77 ÷ 7 =	5 ÷ 5 =
24 ÷ 12 =	36 ÷ 6 =	24 ÷ 8 =	16 ÷ 2 =	28 ÷ 4 =