Spring Break Packet
2020

7th Grade

1. Math packet - Read the problems and make sure you understand what it is asking of you. Do all work that is needed. Do not rush through it.

Don't forget your Steps for Excellence and S.O.L.V.E steps for Math

***PACKET COUNT AS A GRADE ***

Enjoy your break!

Name: _____

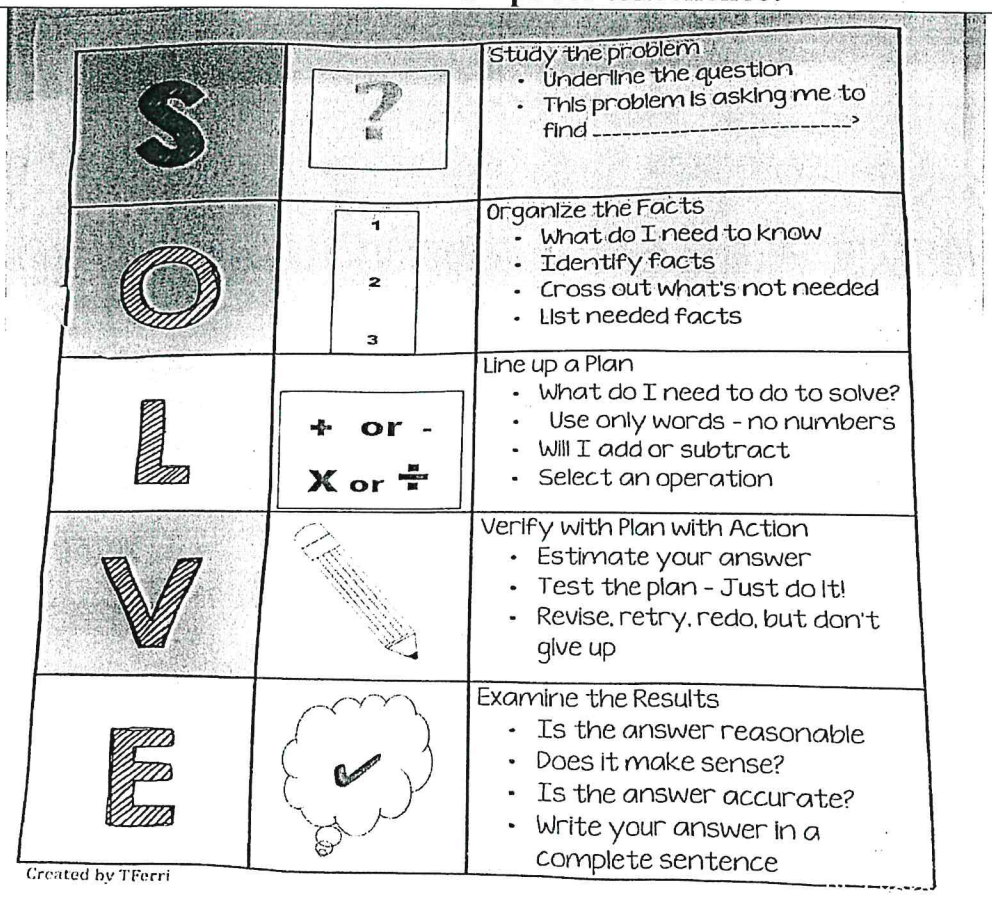
DUE First Day Back

Excellence
MIDDLE SCHOOL

Dear Families,

As much as we know you will be enjoying your break from school over the next week or so, we want to be sure you don't forget all the amazing things you have been working so hard on in math class this year. This winter break review packet is a way for you to practice the skills we've been working on so far this school year.

The Steps for Excellence:



Academic honesty is expected in this class. Cheating will not be tolerated. Consequences may include: reduction in grade on assignment, repeat assignment, no grade on assignment or others as deemed appropriate. Academic dishonesty will be reported to a school counselor and a parent will be notified.

Thank you for your support,

MATH TEAM

1 Clara goes miniature golfing. She pays $7.50 for an admission ticket and $6.25 for each round she golfs. The total amount Clara pays for admission and the number of rounds she golfs is $26.25. Which equation can be used to determine the number of rounds, x, that Clara golfs?

A $6.25x + 7.50 = 26.25$

B $6.25x - 7.50 = 26.25$

C $7.50x + 6.25 = 26.25$

D $7.50x - 6.25 = 26.25$

2 What is the exact decimal equivalent of $\frac{7}{12}$?

A 0.583

B $0.58\overline{3}$

C 1.714

D $1.71\overline{4}$

3 Joseph's lunch at a restaurant costs $13.00, without tax. He leaves the waiter a tip of 17% of the cost of the lunch, without tax. What is the total cost of the lunch, including the tip, without tax?

A $2.21

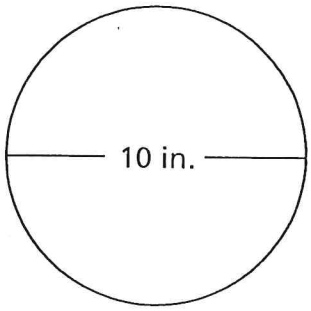
B $10.79

C $13.17

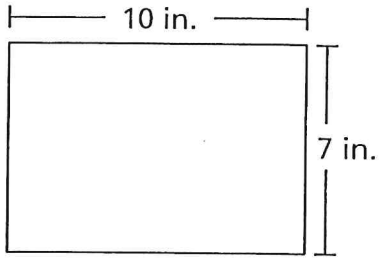
D $15.21

4 Jordan is baking brownies and will choose to use either a round or a rectangular pan. The dimensions of the bottom of each pan are shown below.

BOTTOM OF ROUND PAN



BOTTOM OF RECTANGULAR PAN



Which statement correctly describes how the area of the bottom of the round pan compares to the area of the bottom of the rectangular pan?

A The area of the bottom of the round pan is greater than the area of the bottom of the rectangular pan by about 8.5 square inches.

B The area of the bottom of the round pan is greater than the area of the bottom of the rectangular pan by about 244.2 square inches.

C The area of the bottom of the round pan is less than the area of the bottom of the rectangular pan by about 7.2 square inches.

D The area of the bottom of the round pan is less than the area of the bottom of the rectangular pan by about 38.6 square inches.

5 On average, Shawnte drinks $\frac{1}{2}$ of a 6-ounce glass of water in $\frac{2}{3}$ hour. How much water does she drink in an hour?

A 0.75 ounce

B 2 ounces

C 4.5 ounces

D 9 ounces

6 A spinner is divided into four colored sections that are not of equal size: red, blue, purple, and orange. The arrow on the spinner is spun several times.

SPINNER RESULTS

Color	Number of Times
Red	15
Blue	24
Purple	12
Orange	9

The arrow on the spinner will be spun one more time. Based on these results, what is the probability that the arrow will land on the purple section?

A $\frac{1}{4}$

B $\frac{1}{5}$

C $\frac{1}{6}$

D $\frac{1}{12}$

7 Which expression is equivalent to $(-18) - 64n$?

A $-2(9 - 32n)$

B $2(9 - 32n)$

C $-2(9 + 32n)$

D $2(9 + 32n)$

8 Verda used a sensor to measure the speed of a moving car at different times. At each time, the sensor measured the speed of the car in both miles per hour and kilometers per hour. The table below shows her results.

RECORDED SPEEDS

Speed (miles per hour)	Speed (kilometers per hour)
11.0	17.699
26.0	41.834
34.0	54.706

Based on her results, which statement describes the relationship between *m*, the speed of the car in miles per hour, and *k*, the speed of the car in kilometers per hour?

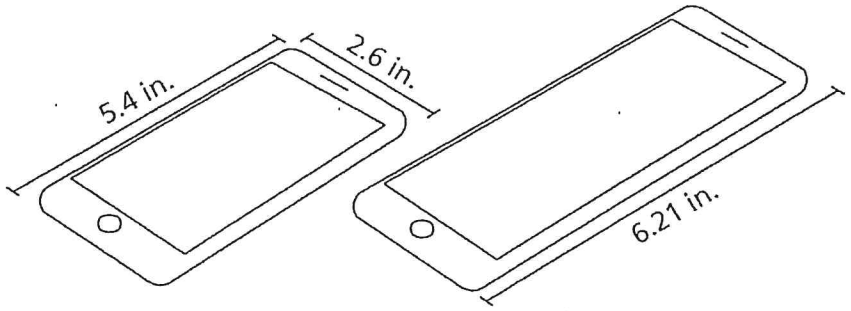
A The relationship is proportional because the ratio of *m* to *k* is constant.

B The relationship is not proportional because the ratio of *m* to *k* is constant.

C The relationship is proportional because the difference between *m* and *k* is constant.

D The relationship is not proportional because the difference between *m* and *k* is constant.

9 The diagram shows the length and width of a cell phone, and the length of a larger version of the same brand of cell phone.



The lengths and widths of the two cell phones are proportional. What is the width, in inches, of the larger version of the cell phone?

A 1.15

B 2.26

C 2.99

D 3.41

10 From 12:00 midnight to 6:00 a.m., the temperature decreased by 12°C. If the original temperature was 12°C, which expression can be used to represent this situation?

A $12 - 12$

B $12 + 12$

C $12 - (-12)$

D $-12 + (-12)$

11 Bonnie deposits $70.00 into a new savings account.

- The account earns 4.5% simple interest per year.
- No money is added or removed from the savings account for 3 years.

What is the total amount of money in her savings account at the end of the 3 years?

A $9.45

B $79.45

C $94.50

D $164.50

12 Which situation results in a final value of zero?

A The temperature after a decrease of 5°F from a temperature of −5°F.

B The height of an airplane after taking off from ground level and rising 1,000 feet.

C The amount of money received in change after making a $10 purchase with a $20 bill.

D The distance above sea level after increasing 24 meters from a depth of 24 meters below sea level.

13 The ratio of boys to girls in Mr. Johnson's after-school club is the same as the ratio of boys to girls in Ms. Greene's after-school club. There are 4 boys and 12 girls in Mr. Johnson's club. There are 6 boys in Ms. Greene's club. How many girls are in Ms. Greene's club?

A 2

B 12

C 14

D 18

14 The regular price of an item at a store is p dollars. The item is on sale for 20% off the regular price. Some of the expressions shown below represent the sale price, in dollars, of the item.

Expression A: $0.2p$

Expression B: $0.8p$

Expression C: $1 - 0.2p$

Expression D: $p - 0.2p$

Expression E: $p - 0.8p$

Which two expressions each represent the sale price of the item?

A Expression A and Expression E

B Expression B and Expression C

C Expression B and Expression D

D Expression C and Expression D

15 Last week, the price of apples at a grocery store was \$1.60 per pound. This week, apples at the same grocery store are on sale at a 10% discount. What is the total price of $4\frac{1}{2}$ pounds of apples this week at the grocery store?

A \$4.77

B \$6.48

C \$6.75

D \$6.93

16 An object travels along a horizontal straight path at a constant rate. The object travels $\frac{1}{20}$ of the length of the path in $\frac{3}{4}$ second. At that rate, how many seconds does it take the object to travel the entire length of the path?

A 15

B $15\frac{3}{4}$

C 20

D $20\frac{3}{4}$

17. Three classes at a junior high school raised money to buy new computers.

- Ms. Moore's class raised $249.00.
- Ms. Aguilar's class raised $396.62 more than Ms. Moore's class.
- Mr. Barry's class raised $430.43 less than Ms. Aguilar's class.

What is the total amount of money raised by all three classes?

A $215.19

B $464.19

C $1,076.05

D $1,109.81

18 A farm grew 19.8 tons of wheat in 2013. The farm's wheat output increased by 9.8% from 2013 to 2014 and by 5.1% from 2014 to 2015. Which expression represents a strategy for estimating the total output of wheat, in tons, in 2015?

A $20 + 10 + 5$

B $20(10)(5)$

C $20 + 1.1 + 1.05$

D $20(1.1)(1.05)$

19 Which table shows a proportional relationship between x and y?

A

x	y
3	4
6	10
9	16
12	22
15	28

C

x	y
4	2
8	4
12	8
16	14
20	20

B

x	y
12	6
14	12
16	18
18	24
20	30

D

x	y
5	1
10	2
15	3
20	4
25	5

20 Which expression is equivalent to $7a - 8 - 12a + 4$?

A $-9a$

B $31a$

C $-5a - 4$

D $19a + 12$

28 Lea wants to save money on a new computer. At the store near her, the computer she wants is listed at a regular price of $400.00.

- On Saturday, the store will have a sale and discount the computer by 30%.
- Shoppers who buy a computer that same Saturday before 9:00 a.m. will also receive an additional 10% off the sale price.

How much will Lea pay, without tax, when she buys the computer that Saturday before 9:00 a.m.?

A $148.00

B $160.00

C $240.00

D $252.00

29 Which expression can go in the blank to make the equation true?

$-4.5 + 4.4 + __?__ = 0$

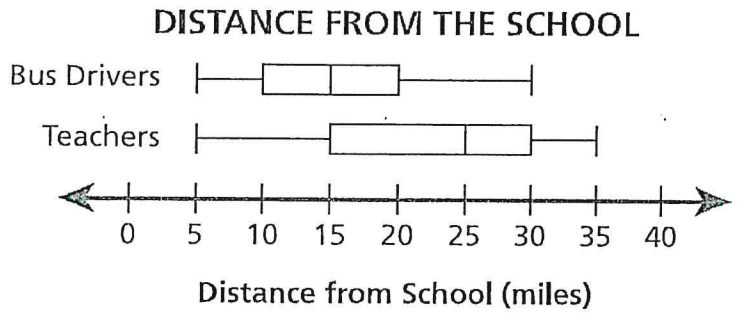
A $-6.7 + 6.8$

B $-6.7 + (-6.6)$

C $7.2 + (-7.2)$

D $7.2 + (-7.3)$

23 A principal gathered data about the distance, in miles, that his teachers and bus drivers live from the school. The box plots below show these data.



Based on the box plots, which statement is true?

A The interquartile range of the distances for the bus drivers is twice the interquartile range of the distances for the teachers.

B The range of the distances for the teachers is twice the range of the distances for the bus drivers.

C The interquartile range of the distances for the bus drivers is 5 miles less than the interquartile range of the distances for the teachers.

D The range of the distances for the teachers is 5 miles less than the range of the distances for the bus drivers.

24 At midnight, the temperature was $-8°\text{F}$. At noon, the temperature was $23°\text{F}$.

Which expression represents the increase in temperature?

A $-8 - 23$

B $|-8| - 23$

C $-8 - |23|$

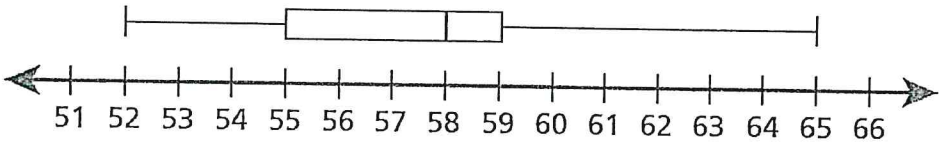
D $|-8 - 23|$

25 Amanda surveyed 13 students in her class about their heights in inches. Her data are listed below.

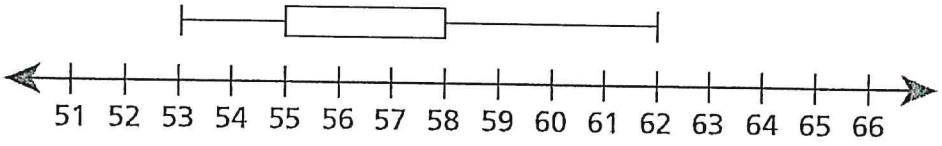
52, 53, 55, 55, 56, 57, 58, 58, 59, 59, 59, 62, 65

Which box plot correctly displays her data?

A



B



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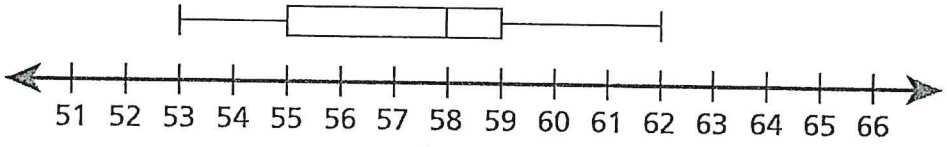

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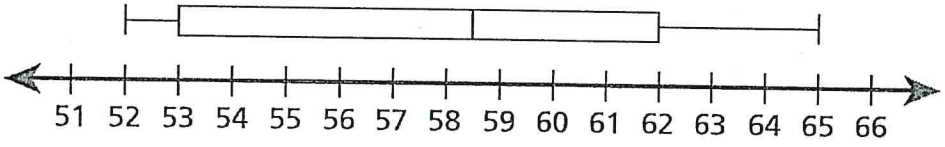

26 A spinner with seven equal-sized sections was used to play a game.

- It was used 250 times in the first game.
- Of those 250, the arrow landed on section 7 a total of 35 times.
- The same spinner was used 150 times in the second game.

How many times did the spinner **most likely** land on section 7 in the second game?

A 14

B 21

C 30

D 35

27 Danielle constructs a scale model of a building with a rectangular base. Her model is 2 inches in length and 1 inch in width. The scale on the model is 1 inch = 47 feet. What is the actual area, in square feet, of the base of the building?

A 141

B 282

C 2,209

D 4,418

28 What value will make the equation true?

$$-2.1 - \underline{\quad ? \quad} = -1\frac{1}{2}$$

A 3.6

B 0.6

C −0.6

D −3.6

29 Manny goes bowling.

- He has $25.00 to spend.
- He spends $4.25 to rent shoes.
- He spends $2.50 for each game he bowls.

Which inequality can Manny use to determine x, the greatest number of games he can bowl?

A $2.5 + 4.25x \geq 25$

B $4.25 + 2.5x \geq 25$

C $2.5 + 4.25x \leq 25$

D $4.25 + 2.5x \leq 25$

30 A middle school principal wants to change the lunch menu at the school. The principal surveys the students to determine how the students would feel about the changes. Which survey method will produce the **best** representative sample?

A survey every fifth student who rides in a car to school

B survey 3 randomly selected students from every homeroom

C survey every tenth seventh-grade student during lunch

D survey 5 randomly selected students from every art, drama, and music class

31 Kerry has a bag containing white and yellow marbles. Kerry randomly selects one marble from the bag, records the result, and returns the marble to the bag. The results of the first 65 selections are shown below.

- A white marble was selected 41 times.
- A yellow marble was selected 24 times.

Based on these results, what is the probability that the next marble Kerry selects, rounded to the nearest percent, will be white?

A 41%

B 50%

C 59%

D 63%

32 Which situation results in a final value of zero?

A the overall change in temperature when the temperature goes from $-10°\text{F}$ to $10°\text{F}$

B the total profit made when a person buys an item for \$2.25 and then sells the item for \$2.25

C the overall change in altitude of a hot air balloon after rising 21 kilometers from sea level

D the total distance a person travels when he bikes 3.1 miles to school and then bikes 3.1 miles back home

33 The table below shows the lowest temperature, in degrees Fahrenheit, on each of 5 days for a city.

LOWEST DAILY TEMPERATURES

Day	Temperature(°F)
Monday	–36°
Tuesday	–25°
Wednesday	12°
Thursday	–3°
Friday	18°

What is the mean lowest temperature, in degrees Fahrenheit, in the city for those 5 days?

A −18.8°

B −6.8°

C 6.8°

D 18.8°

34 The table below shows a proportional relationship between s and t.

s	t
21	3
35	5
49	7
63	9
70	10

$\frac{3}{21} = \frac{1}{7}$

Which equation represents the relationship between s and t?

A $s = \frac{1}{7}t$

B $s = 7t$

C $s = t + 2$

D $s = t + 18$

35 Which expression is equivalent to $2(x + 7) - 18x + \frac{4}{5}$?

A $20x + \frac{74}{5}$

B $20x + \frac{139}{5}$

C $-16x + \frac{74}{5}$

D $-16x + \frac{139}{5}$