Team Name_____

MATHLETES CHALLENGE 2018

ROUND 1

TEST 2

1 What part of the expression below should be calculated first?

$$8 + \{22 \times [15 + (14 \times 2)]\}$$

A $8 + 22$

B 22×15

C 14×2

D $15 + 14$

2 Tara baked $6\frac{1}{2}$ dozen cookies. She sold $3\frac{2}{6}$ dozen of the cookies she made. How many dozens of cookies does Tara have remaining?

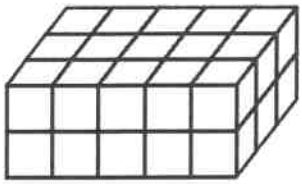
A $3\frac{1}{6}$

B $3\frac{1}{4}$

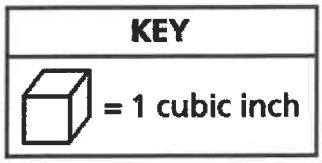
C $3\frac{3}{8}$

D $3\frac{5}{6}$

3 Prism A is shown below. The height of Prism B is 2 times the height of Prism A. The length and width of both prisms are the same.



Prism A



What is the volume, in cubic inches, of Prism B?

A 20

B 44

C 45

D 60

4 Which decimal is equivalent to $\frac{41}{100}$?

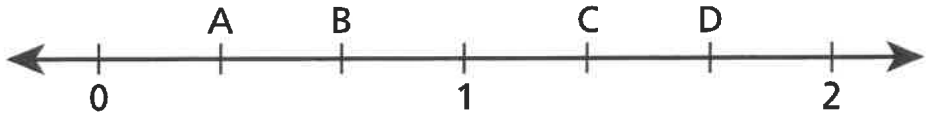
A 41.0

B 4.10

C 0.41

D 0.041

5. Which letter on the number line below represents a fraction equivalent to $\frac{4}{6}$?



A A

B B

C C

D D

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6 What number is equivalent to the expanded form shown below?

$$(2 \times 100) + (3 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(3 \times \frac{1}{1{,}000}\right)$$

A 203.043

B 203.403

C 230.430

D 230.403

7 Which phrase is represented by the expression $5 \times (36 + 9)$?

A the product of 36 and 5, increased by 9

B the product of 36 and 9, multiplied by 5

C the sum of 36 and 9, multiplied by 5

D the sum of 36 and 5, increased by 9

8 The value of the digit in the hundreds place in the number 653,841 is $\frac{1}{10}$ the value of the digit in the thousands place in which number?

A 748,917

B 749,817

C 784,917

D 797,481

9 The table below lists the number of layers of centimeter cubes, along with the number of cubes in each layer, in each of four rectangular prisms.

LAYERS OF CUBES IN RECTANGULAR PRISMS

Prism	Number of Layers	Number of Cubes in Each Layer
R	3	8
S	5	5
T	6	5
U	7	4

Which rectangular prism has the greatest volume?

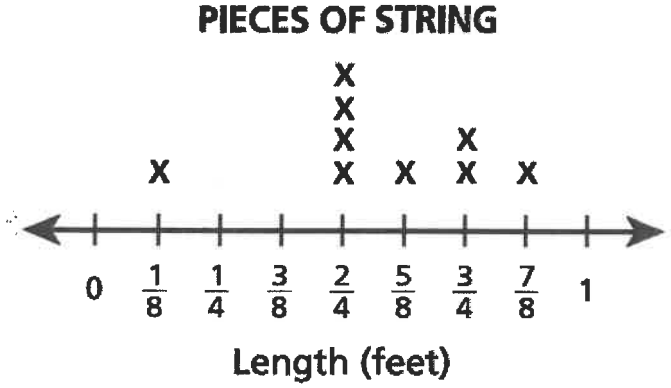
A Prism R

B Prism S

C Prism T

D Prism U

10. The line plot below shows the lengths of all the pieces of string Emma used for an art project. She cut all these pieces from one original piece of string.



Emma had 1 foot of string left over. How long, in feet, was the original piece of string?

A $1\frac{6}{8}$

B $1\frac{7}{8}$

C $3\frac{7}{8}$

D $6\frac{1}{8}$

11. For which values of k would the product of $\frac{k}{3} \times 12$ be greater than 12?

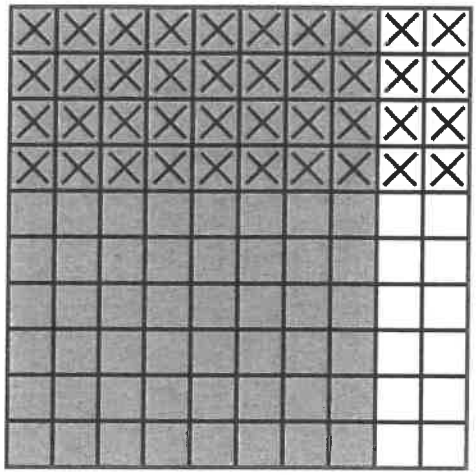
A for any value of k less than 1 but greater than 0

B for any value of k less than 3 but greater than 1

C for any value of k equal to 3

D for any value of k greater than 3

12 The decimal grid shown below is shaded and marked with Xs to model an expression.



Which expression could be modeled by this decimal grid?

A 0.08×0.04

B 0.08×0.40

C 0.80×0.04

D 0.80×0.40

13 What is the value of the expression $\frac{1}{5} \div 4$?

A $\frac{20}{1}$

B $\frac{5}{4}$

C $\frac{4}{5}$

D $\frac{1}{20}$

14 Mia buys 5 yards of ribbon to make bracelets. She needs 18 inches of ribbon to make 1 bracelet. How many bracelets can Mia make if she uses all the ribbon she buys?

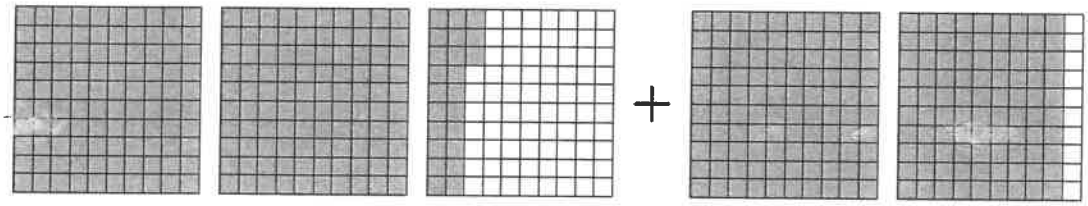
A 90

B 10

C 3

D 2

15 The decimal grids below are shaded to model an expression.



What is the value of the expression modeled by the decimal grids?

A 3.29

B 3.32

C 4.10

D 4.13

16 Which expression is equivalent to $\frac{3}{5}$?

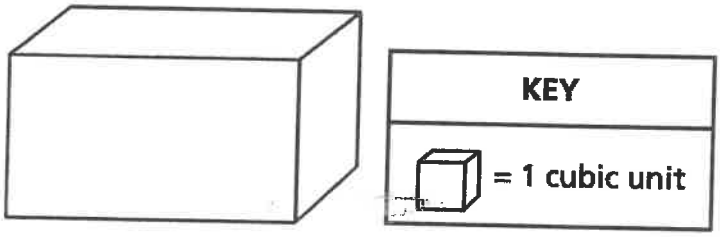
A 3×5

B $3 + 5$

C $3 \div 5$

D $3 - 5$

17 Tyler completely filled the box shown below with unit cubes, with no gaps or overlaps.



He then counted the number of cubes that he used to fill the box. What type of measurement is represented by the number of cubes Tyler counted?

A area

B height

C volume

D perimeter

18. Each day last week, Ms. Wilson walked $\frac{3}{4}$ mile. What is the total distance, in miles, that Ms. Wilson walked in 4 days?

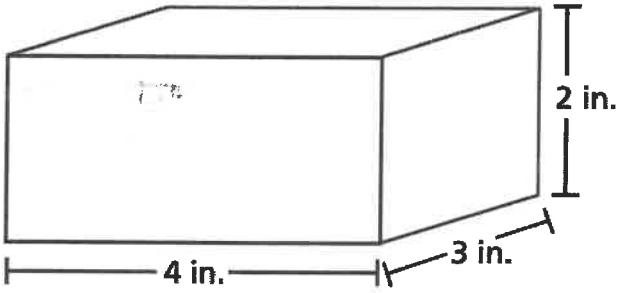
A 1

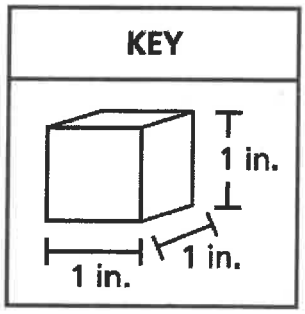
B 2

C 3

D 4

19. A right rectangular prism is shown below. The volume of the prism is determined by using unit cubes.





Which statement describes how to determine the volume of the prism in cubic units?

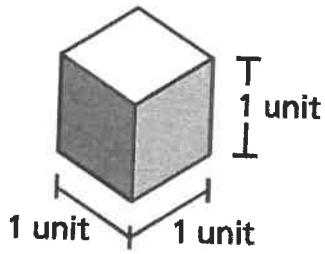
A Add the length, width, and height: $4 + 3 + 2$.

B Add the length and width and then multiply by the height: $(4 + 3) \times 2$.

C Determine the area of the base and add the number of layers of cubes: $(4 \times 3) + 2$.

D Determine the area of the base and multiply by the number of layers of cubes: $(4 \times 3) \times 2$.

20. What is the volume of the cube shown below?



A 1 cubic unit

B 3 cubic units

C 4 cubic units

D 6 cubic units

Answer Key – 2018 Mathletes Challenge Round 01

Round 01 – Test 01	Round 01 – Test 02
1. D	1. C
2. C	2. A
3. A	3. D
4. A	4. C
5. B	5. B
6. A	6. B
7. D	7. C
8. A	8. A
9. A	9. C
10. D	10. D
11. C	11. D
12. B	12. D
13. C	13. D
14. D	14. B
15. C	15. D
16. B	16. C
17. D	17. C
18. A	18. C
19. A	19. D
20. B	20. A