

Instructions for Online Testing

PLEASE COMPLETE ALL THE WORK BY YOURSELF
ZOOM CAMERA SHOULD BE ON DURING EXAM TIME
NO TALKING, CALLING, OR TEXTING DURING EXAM TIME

CALCULATOR IS ALLOWED

OTHER:

1. If you cannot print out the answer sheet (see another attachment), please prepare a separate paper; write all the required information (refer to the answer sheet) and the answers on that paper.
2. Please send a picture of your answer sheet to BCECAEmath@gmail.com; your email subject should be: Last name, First name. Emails that are not sent to the above email address may not be graded.
3. You have 2.5 hours for the exam and an extra 60 minutes to download the exam and upload your answer. Later work after 3:30pm will not be graded.

Please write the letter of the answer you choose on the answer sheet.

1. Kathy stood on the middle rung of a ladder. She climbed up three rungs, moved down five rungs, and then climbed up seven rungs. Then she climbed up the remaining six rungs to the top of the ladder. How many rungs are there in the whole ladder?

Which of the following problem-solving strategies would be the most appropriate to use to solve this problem?

A Trial and error B Working backwards C Set up an equation D Draw a diagram

2. Nicole wanted to solve a math problem: “If there are 52 weeks in a year and today makes 23 weeks, how many weeks until the end of the year?”

What should be her first problem solving step?

A Devise a plan to solve the problem
B Understand what the problem is asking
C Carry out the plan
D Look back to check her answer is correct

3. Which equation below shows the correct use of the distributive property?

A $2(5-3) = (2 + 5) \times (2 \times -3)$ B $2(5-3) = (2 \times 5) - 3$
C $2(5-3) = (2 \times 5) + (2 \times 3)$ D $2(5-3) = (2 \times 5) - (2 \times 3)$

4. Which expression represents the phrase: *3 fewer than a number, p*?

A $3-p$ B $p \div 3$ C $3 \div p$ D $p-3$

5. There are 230 calories in 4 ounces of a type of ice cream. How many calories are in 10 ounces of that ice cream?

A 92 B 550 C 575 D 460

6. Use the diagram below to answer the question that follows



A teacher places a row of apples on a table and asks a child how many apples there are. The child points to each apple while saying the numbers in the proper sequence from one through five. When asked again how many apples there are, the child responds by counting the apples again.

Given this evidence, which question could the teacher ask to help the child connect counting to cardinality?

A How many apples are there?
B How is the last number name you said when counting the apples?
C How many different colors of apples are there?
D How is the first apple counted similar to the last apple counted?

7. A zoo has 15 toucans and 60 parrots. What is the ratio of the number of toucans to the number of parrots at the zoom?

- A 1:4 B 1:5 C 4:1 D 4:5

8. A box is filled with candies in different colors. We have 40 white candies, 24 green ones, 12 red ones, 24 yellow ones and 20 blue ones. If we have selected one candy from the box without peeking into it, find the probability of getting a green or red candy.

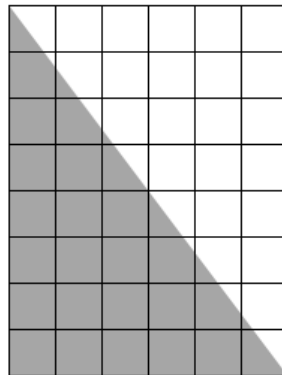
- A $12/120$ B $24/120$ C $36/120$ D $84/120$

9. Which statement about rectangles and rhombuses is always true?

- A Both figures are squares
 B Both figures are quadrilaterals
 C Both figures have right angles
 D Both figures have four congruent sides

10. The grid shown below is in the shape of a rectangle. What is the area, in square units, of the shaded part of the rectangle?

- A 14 B 24 C 28 D 48

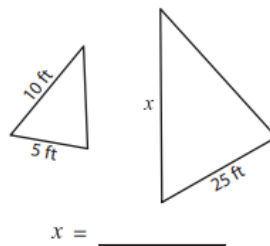


11. A number, rounded to the nearest thousand, is 47,000. Which number could be the number that was rounded?

- A 46,295 B 46,344 C 47,220 D 47,624

12. The pair of triangles below is similar. What is the value of x?

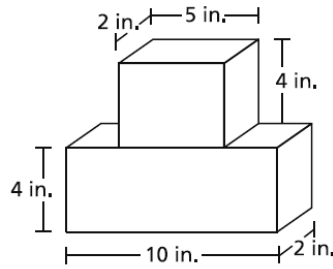
- A 10 B 15 C 20 D 50



13. Which decimal number is equivalent to $\frac{73}{100}$?

- A 0.73 B 7.3 C 73.1 D 100.73

14. Lana used the two blocks pictured in the diagram to build a tower.



LANA'S TOWER

What is the total volume, in cubic inches, of the tower Lana built?

- A 27 B 80 C 116 D 120

15. Jim has four test scores of 87, 90, 91, and 95. There is one more test during the semester. He wants to make an A in the class, which means he needs his average to be a 90. All five tests count the same in determining the class grade. What grade does Jim need to make on the fifth test to make an A in the class?

- A 90 B 91 C 87 D 88

16. The coordinates of the points below represent the vertices of a rectangle.

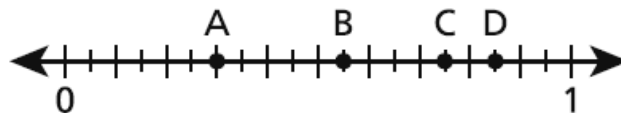
P: (2, 2); Q: (6, 2); R: (6, 5); S: (2, 5)

What is the perimeter, in units, of rectangle PQRS?

- A 8 B 12 C 14 D 16

17. Which point on the number line below represents a value of 0.75?

- A point A B point B C point C D point D



18. A bakery made 9 cakes using 3 bags of flour. The bakery uses the same relationship between cakes made and the amount of flour to make all of their cakes. Which table of values shows the relationship between the numbers of cakes the bakery makes to the number of bags of flour the bakery uses?

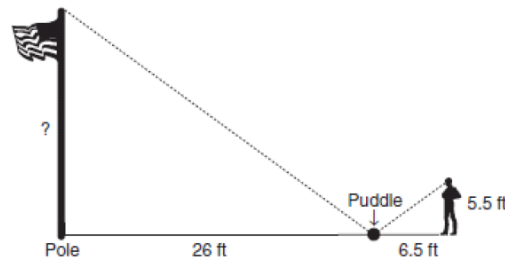
		CAKES BAKED							CAKES BAKED				
A	Cakes	1	2	3	4	5	C	Cakes	7	8	9	10	11
	Bags of Flour	3	6	9	12	15		Bags of Flour	1	2	3	4	5
		CAKES BAKED					<th colspan="5">CAKES BAKED</th>		CAKES BAKED				
B	Cakes	3	6	9	12	15	D	Cakes	1	2	3	4	5
	Bags of Flour	1	2	3	4	5		Bags of Flour	7	8	9	10	11

19. Using an area model for $(10+a) \times (20+b)$ as shown in below, what is the value for the unknown (with the “?” mark) area?

- A $10b$ B $20a$ C ab D $200ab$

	20	b
10	200	$10b$
a	$20a$?

20. As shown in the drawing, Raymond used similar triangles to find the height of a pole (for similar triangles, the corresponding sides are proportional). When he stood 6.5 feet from a small puddle, he could see the reflection of the top of the pole in the puddle. The puddle was 26 feet from the pole, and Raymond’s eye level was 5.5 feet about the ground. What is the height of the pole in feet?



- A 16 feet B 22 feet C 24 feet D 36 feet

21. The table shows how OUT values are related to IN numbers. Which rule tells how to find the OUT number for any IN number, X?

IN	2	3	10	8	20		100
OUT	5	7	21	17		101	

- A $X + 1$ B $X + 3$ C $2(X+1)$ D $2X + 1$

22. Andrew wrote the number 186,425 on the board. In which number is the value of the digit 4 exactly 100 times the value of the digit in the number Andrew wrote?

- A 681,452 B 462,017 C 246,412 D 124,655

23. How many $\frac{1}{3}$ (one third)-cup servings are in 4 cups?

- A $\frac{1}{12}$ B $\frac{3}{4}$ C 4 D 12

24. Ursula drew a polygon in which all the angles were obtuse. What kind of polygon could she have drawn?

- A trapezoid B parallelogram C triangle D pentagon

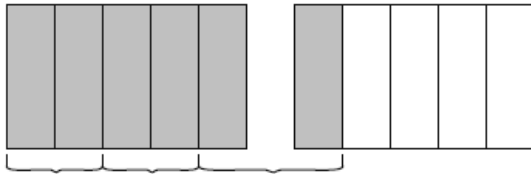
25. A school librarian ordered new books for the library. Of the new books ordered, $\frac{1}{3}$ are science, $\frac{2}{5}$ are biography, and the rest of the books are fiction. What fraction of the books ordered are fiction?

- A $\frac{3}{5}$ B $\frac{3}{8}$ C $\frac{4}{15}$ D $\frac{11}{15}$

26. What is the value of the expression $\frac{3^2 \cdot (2^3 + 4)}{2^2}$?

- A 10 B 15 C 19 D 27

27. The model below is shaded to represent an expression.



Which expression represents the model?

- A $\frac{1}{3} \times \frac{2}{5}$ B $\frac{1}{3} \times \frac{5}{2}$ C $3 \times \frac{2}{5}$ D $3 \times \frac{5}{2}$

28. Which expression has a value that is greater than 42.537?

- A $(4 \times 10) + (2 \times 1) + \left(5 \times \frac{1}{10}\right) + \left(9 \times \frac{1}{100}\right) + \left(3 \times \frac{1}{1,000}\right)$
 B $(4 \times 10) + (1 \times 1) + \left(6 \times \frac{1}{10}\right) + \left(2 \times \frac{1}{100}\right) + \left(5 \times \frac{1}{1,000}\right)$
 C $(4 \times 10) + (2 \times 1) + \left(5 \times \frac{1}{10}\right) + \left(3 \times \frac{1}{100}\right) + \left(7 \times \frac{1}{1,000}\right)$
 D $(4 \times 10) + (2 \times 1) + \left(5 \times \frac{1}{10}\right) + \left(1 \times \frac{1}{100}\right) + \left(9 \times \frac{1}{1,000}\right)$

29. Which situation could the expression $\frac{1}{4} \div 3$ represent?

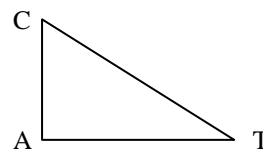
- A $\frac{1}{4}$ of a package of pencils shared equally among three friends
 B the number of $\frac{1}{4}$ -cup servings in three cups of popcorn
 C $\frac{1}{3}$ of a stadium split into four equal sections
 D a four-foot-long rope cut into $\frac{1}{3}$ -foot pieces

30. Kate has a coin collection. She keeps 8 of the coins in a box, which is only 5% of her entire collection. What is the total number of coins in Kate’s coin collection?

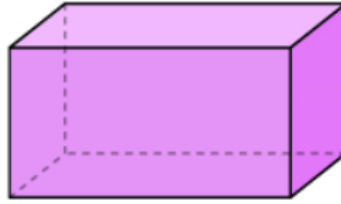
- A 16 B 160 C 103 D 140

31. Side CA of the right triangle CAT is 3cm long. The hypotenuse is 5cm long. How many square centimeters is the area of CAT?

- A 4 B 6 C $7\frac{1}{2}$ D 12

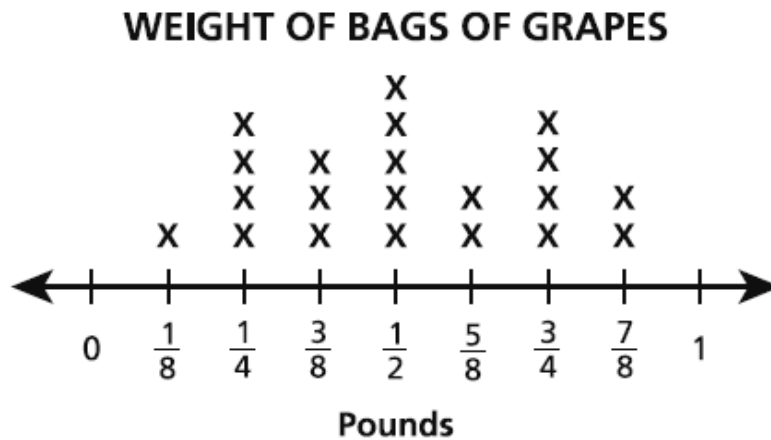


32. How many edges does a rectangular prism have?



- A 12 B 6 C 8 D 11

33. The line plot shows the number of bags of grapes, grouped by weight, to the nearest $\frac{1}{8}$ pound. What was the total weight of the grapes in the bags that had a weight of $\frac{3}{8}$ pound or less?



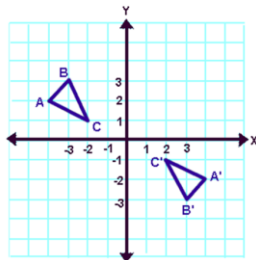
- A $\frac{6}{8}$ B $\frac{9}{8}$ C 2 and $\frac{1}{4}$ D 9

34. Estimate the square root of 450: $\sqrt{450}$

- A 200 B 20 C 300 D 30

35. The graph below shows an example of a transformation. Which transformation is shown?

- A Translation B Reflection in origin C Rotation D Dilation



Note. You need to answer 28 questions correctly to pass the exam.

1D

2B

3D

4.D

5C

6B

7A

8C

9B

10B

11C

12D

13A

14D

15C

16C

17C

18B

19C

20B

21D

22C

23D

24D

25C

26D

27C

28A

29A

30B

31B

32A

33C

34B

35B