Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

Turn to Section 3 of your answer sheet to answer the questions in this section.

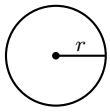
DIRECTIONS

For questions 1-15, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. **For questions 16-20**, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 16 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

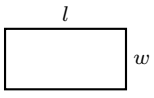
NOTES

1. The use of a calculator **is not permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function f is the set of all real numbers x for which f(x) is a real number.

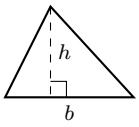
REFERENCE



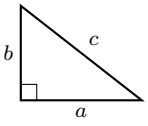
$A = \pi r^2$
$C = 2\pi r$



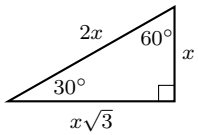
$A = lw$

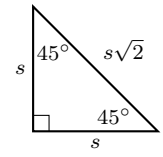


$A = \frac{1}{2}bh$

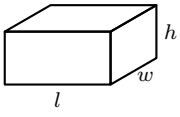


$c^2 = a^2 + b^2$

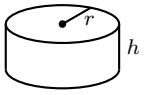




Special Right Triangles

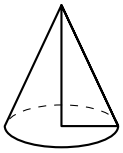


$V = lwh$

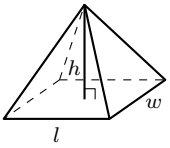


$V = \pi r^2 h$

$V = \frac{4}{3}\pi r^3$



$V = \frac{1}{3}\pi r^2 h$



$V = \frac{1}{3}lwh$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is 2π.

The sum of measures in degrees of the angles of a triangle is 180.

CONTINUE

1

Christine sells real estate. She is paid 4% of the sale price of every house she sells. What is Christine paid for selling a house at the sale price of $\$300,000$?

A) $\$400$

B) $\$1,200$

C) $\$4,000$

D) $\$12,000$

2

For what value(s) of x is $(x+4)(x-5)=0$ true?

A) -4 and 5

B) -4 only

C) 4 and -5

D) 4 only

3

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

A) $0.2<0.01<\frac{1}{7}$

B) $0.01<0.2<\frac{1}{7}$

C) $0.01<\frac{1}{7}<0.2$

D) $\frac{1}{7}<0.01<0.2$

4

Given that $4x+1=5$, what is the value of $(x+1)^2$

A) 1

B) 2

C) 4

D) 16

CONTINUE

5

What vector is the result of adding the vectors $< -1, 2 >$, $< -2, -3 >$, and $< 4, -2 >$?

A) $< 8, 12 >$

B) $< -1, 3 >$

C) $< 3, -3 >$

D) $< 1, -3 >$

6

What value of x makes $\frac{4}{5}x + 3 = 19$

A) $\frac{88}{5}$

B) $\frac{64}{5}$

C) 16

D) 20

7

In Mountainview, the daily low temperatures, in degrees Fahrenheit (° F), during the first week of January were 3, -12, 15, 30, 9, -2, and 6. To the nearest degree Fahrenheit, what was the mean daily low temperature for the week?

A) $7°F$

B) $9°F$

C) $16°F$

D) $19°F$

8

Assume that x, y, and z are real numbers. If $x>z$ and $(x+y) > (y+z)$, then what is true of z?

A) z must have the same sign as y

B) z must be positive

C) z must be positive

D) z can be any real number

CONTINUE

9

What is the slope of the line given by the equation $3x+5y=-4$

A) $\frac{3}{5}$

B) $\frac{5}{3}$

C) $\frac{-3}{5}$

D) $\frac{-5}{3}$

10

One leg of a right triangle is 5 meters long and the other leg is 10 meters long. How many meters long is the hypotenuse?

A) $5\sqrt{5}$

B) $\sqrt{50}$

C) $10\sqrt{5}$

D) $5\sqrt{3}$

11

Christine sells real estate. She is paid 4% of the sale price of every house she sells. What is Christine paid for selling a house at the sale price of $\$300,000$?

A) $\$400$

B) $\$1,200$

C) $\$4,000$

D) $\$12,000$

12

For what value(s) of x is $(x+4)(x-5)=0$ true?

A) -4 and 5

B) -4 only

C) 4 and -5

D) 4 only

CONTINUE

13

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

A) $0.2<0.01<\frac{1}{7}$

B) $0.01<0.2<\frac{1}{7}$

C) $0.01<\frac{1}{7}<0.2$

D) $\frac{1}{7}<0.01<0.2$

14

Given that $4x + 1 = 5$, what is the value of $(x + 1)^2$

A) 1

B) 2

C) 4

D) 16

15

What vector is the result of adding the vectors $< -1, 2 >$, $< -2, -3 >$, and $< 4, -2 >$?

A) $< 8, 12 >$

B) $< -1, 3 >$

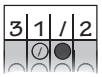
C) $< 3, -3 >$

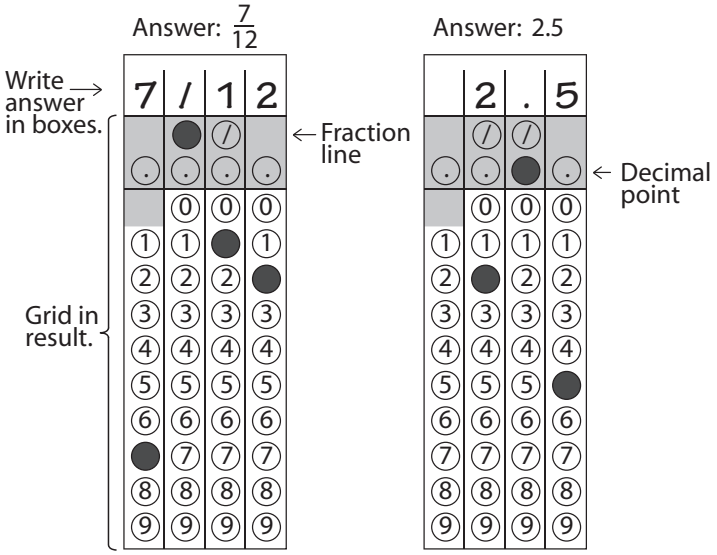
D) $< 1, -3 >$

CONTINUE

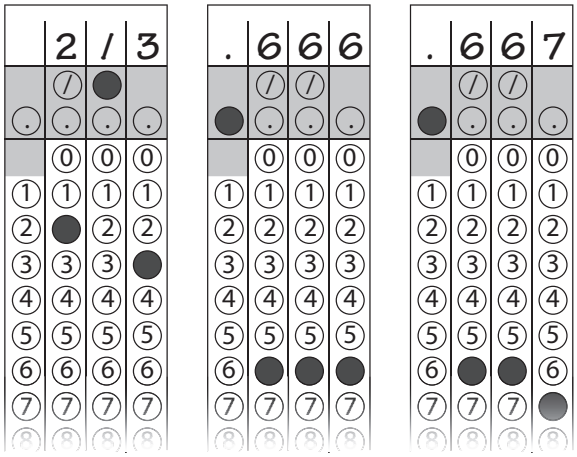
DIRECTIONS

For questions 16–20, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

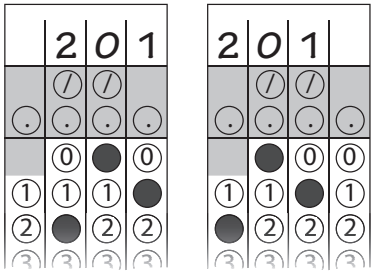
1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
2. Mark no more than one circle in any column.
3. No question has a negative answer.
4. Some problems may have more than one correct answer. In such cases, grid only one answer.
5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If  is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
6. **Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.



Acceptable ways to grid $\frac{2}{3}$ are:



Answer: 201 – either position is correct



NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.

CONTINUE

16

What value of x makes $\frac{4}{5}x + 3 = 19$

17

In Mountainview, the daily low temperatures, in degrees Fahrenheit (° F), during the first week of January were 3, -12, 15, 30, 9, -2, and 6. To the nearest degree Fahrenheit, what was the mean daily low temperature for the week?

18

Assume that x, y, and z are real numbers. If $x>z$ and $(x+y) > (y+z)$, then what is true of z?

19

What is the slope of the line given by the equation $3x+5y=-4$

20

One leg of a right triangle is 5 meters long and the other leg is 10 meters long. How many meters long is the hypotenuse?

CONTINUE

Math Test – Calculator

55 MINUTES, 38 QUESTIONS

Turn to Section 4 of your answer sheet to answer the questions in this section.

DIRECTIONS

For questions 1-30, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. **For questions 31-38**, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 31 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

NOTES

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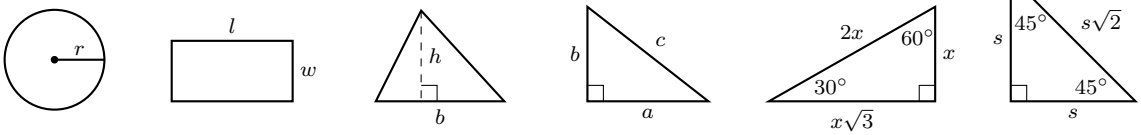


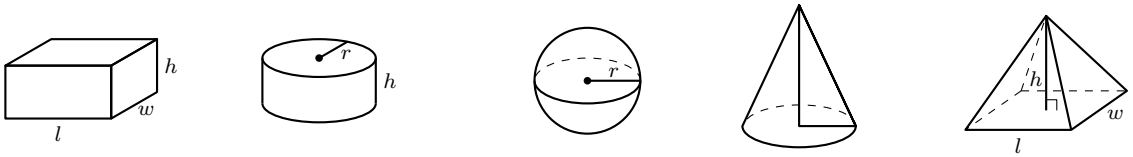
$A = \pi r^2$
$C = 2\pi r$

$A = lw$

$A = \frac{1}{2}bh$

$c^2 = a^2 + b^2$

Special Right Triangles



$V = lwh$

$V = \pi r^2 h$

$V = \frac{4}{3}\pi r^3$

$V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}lwh$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is 2π.

The sum of measures in degrees of the angles of a triangle is 180.

CONTINUE

1

Christine sells real estate. She is paid 4% of the sale price of every house she sells. What is Christine paid for selling a house at the sale price of $\$300,000$?

A) $\$400$

B) $\$1,200$

C) $\$4,000$

D) $\$12,000$

2

For what value(s) of x is $(x+4)(x-5)=0$ true?

A) -4 and 5

B) -4 only

C) 4 and -5

D) 4 only

3

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

A) $0.2<0.01<\frac{1}{7}$

B) $0.01<0.2<\frac{1}{7}$

C) $0.01<\frac{1}{7}<0.2$

D) $\frac{1}{7}<0.01<0.2$

4

Given that $4x+1=5$, what is the value of $(x+1)^2$

A) 1

B) 2

C) 4

D) 16

CONTINUE

5

What vector is the result of adding the vectors $< -1, 2 >$, $< -2, -3 >$, and $< 4, -2 >$?

A) $< 8, 12 >$

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C) 16

D) 20

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Assume that x, y, and z are real numbers. If $x>z$ and $(x+y) > (y+z)$, then what is true of z?

A) z must have the same sign as y

B) z must be positive

C) z must be positive

D) z can be any real number

CONTINUE

9

What is the slope of the line given by the equation $3x+5y=-4$

A) $\frac{3}{5}$

B) $\frac{5}{3}$

C) $\frac{-3}{5}$

D) $\frac{-5}{3}$

10

One leg of a right triangle is 5 meters long and the other leg is 10 meters long. How many meters long is the hypotenuse?

A) $5\sqrt{5}$

B) $\sqrt{50}$

C) $10\sqrt{5}$

D) $5\sqrt{3}$

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B) $\$1,200$

C) $\$4,000$

D) $\$12,000$

12

For what value(s) of x is $(x+4)(x-5)=0$ true?

A) -4 and 5

B) -4 only

C) 4 and -5

D) 4 only

CONTINUE

13

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

A) $0.2<0.01<\frac{1}{7}$

B) $0.01<0.2<\frac{1}{7}$

C) $0.01<\frac{1}{7}<0.2$

D) $\frac{1}{7}<0.01<0.2$

14

Given that $4x + 1 = 5$, what is the value of $(x + 1)^2$

A) 1

B) 2

C) 4

D) 16

15

What vector is the result of adding the vectors $< -1, 2 >$, $< -2, -3 >$, and $< 4, -2 >$?

A) $< 8, 12 >$

B) $< -1, 3 >$

C) $< 3, -3 >$

D) $< 1, -3 >$

16

What value of x makes $\frac{4}{5}x + 3 = 19$

A) $\frac{88}{5}$

B) $\frac{64}{5}$

C) 16

D) 20

CONTINUE

17

In Mountainview, the daily low temperatures, in degrees Fahrenheit (° F), during the first week of January were 3, -12, 15, 30, 9, -2, and 6. To the nearest degree Fahrenheit, what was the mean daily low temperature for the week?

A) $7°F$

B) $9°F$

C) $16°F$

D) $19°F$

18

Assume that x, y, and z are real numbers. If $x>z$ and $(x+y)>(y+z)$, then what is true of z?

A) z must have the same sign as y

B) z must be positive

C) z must be positive

D) z can be any real number

19

What is the slope of the line given by the equation $3x+5y=-4$

A) $\frac{3}{5}$

B) $\frac{5}{3}$

C) $\frac{-3}{5}$

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20

One leg of a right triangle is 5 meters long and the other leg is 10 meters long. How many meters long is the hypotenuse?

A) $5\sqrt{5}$

B) $\sqrt{50}$

C) $10\sqrt{5}$

D) $5\sqrt{3}$

CONTINUE

21

Christine sells real estate. She is paid 4% of the sale price of every house she sells. What is Christine paid for selling a house at the sale price of $\$300,000$?

A) $\$400$

B) $\$1,200$

C) $\$4,000$

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22

For what value(s) of x is $(x+4)(x-5)=0$ true?

A) -4 and 5

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C) 4 and -5

D) 4 only

23

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

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B) $0.01<0.2<\frac{1}{7}$

C) $0.01<\frac{1}{7}<0.2$

D) $\frac{1}{7}<0.01<0.2$

24

Given that $4x+1=5$, what is the value of $(x+1)^2$

A) 1

B) 2

C) 4

D) 16

CONTINUE

25

What vector is the result of adding the vectors $< -1, 2 >$, $< -2, -3 >$, and $< 4, -2 >$?

A) $< 8, 12 >$

B) $< -1, 3 >$

C) $< 3, -3 >$

D) $< 1, -3 >$

26

What value of x makes $\frac{4}{5}x + 3 = 19$

A) $\frac{88}{5}$

B) $\frac{64}{5}$

C) 16

D) 20

27

In Mountainview, the daily low temperatures, in degrees Fahrenheit (° F), during the first week of January were 3, -12, 15, 30, 9, -2, and 6. To the nearest degree Fahrenheit, what was the mean daily low temperature for the week?

A) $7°F$

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C) $16°F$

D) $19°F$

28

Assume that x, y, and z are real numbers. If $x>z$ and $(x+y) > (y+z)$, then what is true of z?

A) z must have the same sign as y

B) z must be positive

C) z must be positive

D) z can be any real number

CONTINUE

29

What is the slope of the line given by the equation $3x+5y=-4$

A) $\frac{3}{5}$

B) $\frac{5}{3}$

C) $\frac{-3}{5}$

D) $\frac{-5}{3}$

30

One leg of a right triangle is 5 meters long and the other leg is 10 meters long. How many meters long is the hypotenuse?

A) $5\sqrt{5}$

B) $\sqrt{50}$

C) $10\sqrt{5}$

D) $5\sqrt{3}$

CONTINUE

DIRECTIONS

For questions 31-38, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
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3. No question has a negative answer.
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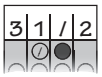
5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If  is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
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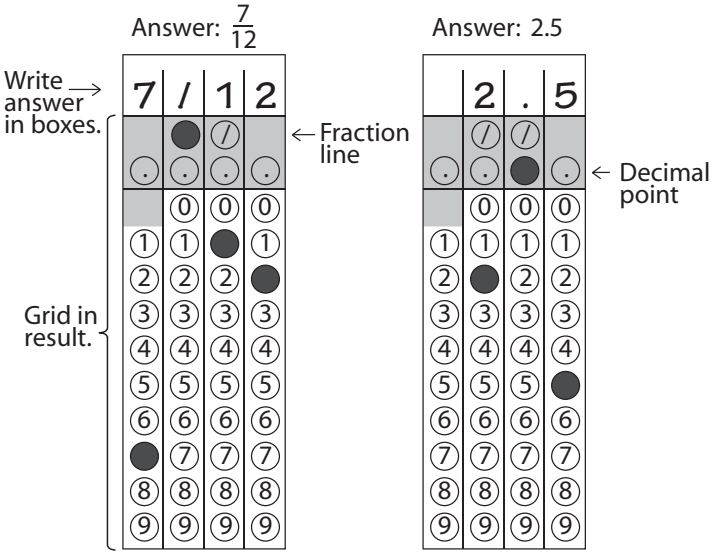
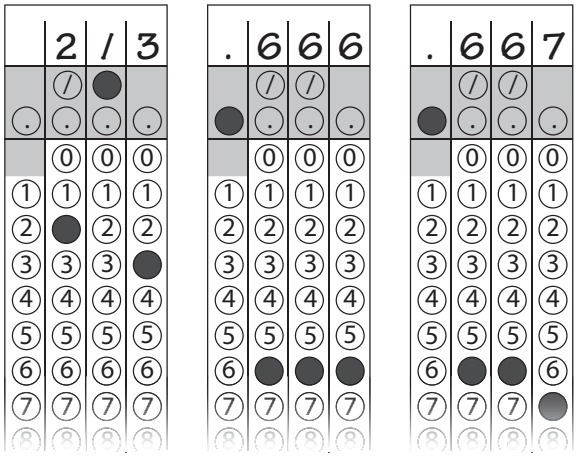
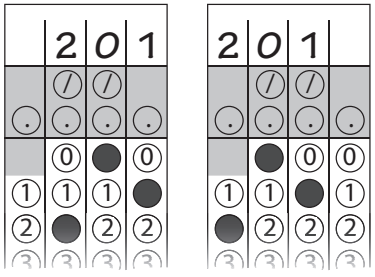


Acceptable ways to grid $\frac{2}{3}$ are:



Answer: 201 – either position is correct



NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.

CONTINUE

31

Christine sells real estate. She is paid 4% of the sale price of every house she sells. What is Christine paid for selling a house at the sale price of $\$300,000$?

32

For what value(s) of x is $(x+4)(x-5)=0$ true?

33

Which of the following inequalities orders the numbers 0.2, 0.01, and $\frac{1}{7}$ from least to greatest?

34

Given that $4x+1=5$, what is the value of $(x+1)^2$

35

What vector is the result of adding the vectors $<-1,2>$, $<-2,-3>$, and $<4,-2>$?

36

What value of x makes $\frac{4}{5}x+3=19$

37

In Mountainview, the daily low temperatures, in degrees Fahrenheit (° F), during the first week of January were 3, -12, 15, 30, 9, -2, and 6. To the nearest degree Fahrenheit, what was the mean daily low temperature for the week?

38

Assume that x, y, and z are real numbers. If $x>z$ and $(x+y)>(y+z)$, then what is true of z?

Answer Key

Calculator Off	
1	D
2	A
3	C
4	C
5	D
6	D
7	B
8	D
9	C
10	A
11	D
12	A
13	C
14	C
15	D
16	
17	
18	
19	
20	

Calculator On	
1	D
2	A
3	C
4	C
5	D
6	D
7	B
8	D
9	C
10	A
11	D
12	A
13	C
14	C
15	D
16	D
17	B
18	D
19	C
20	A
21	D
22	A
23	C
24	C
25	D
26	D
27	B
28	D
29	C
30	A
31	
32	
33	
34	
35	
36	
37	
38	