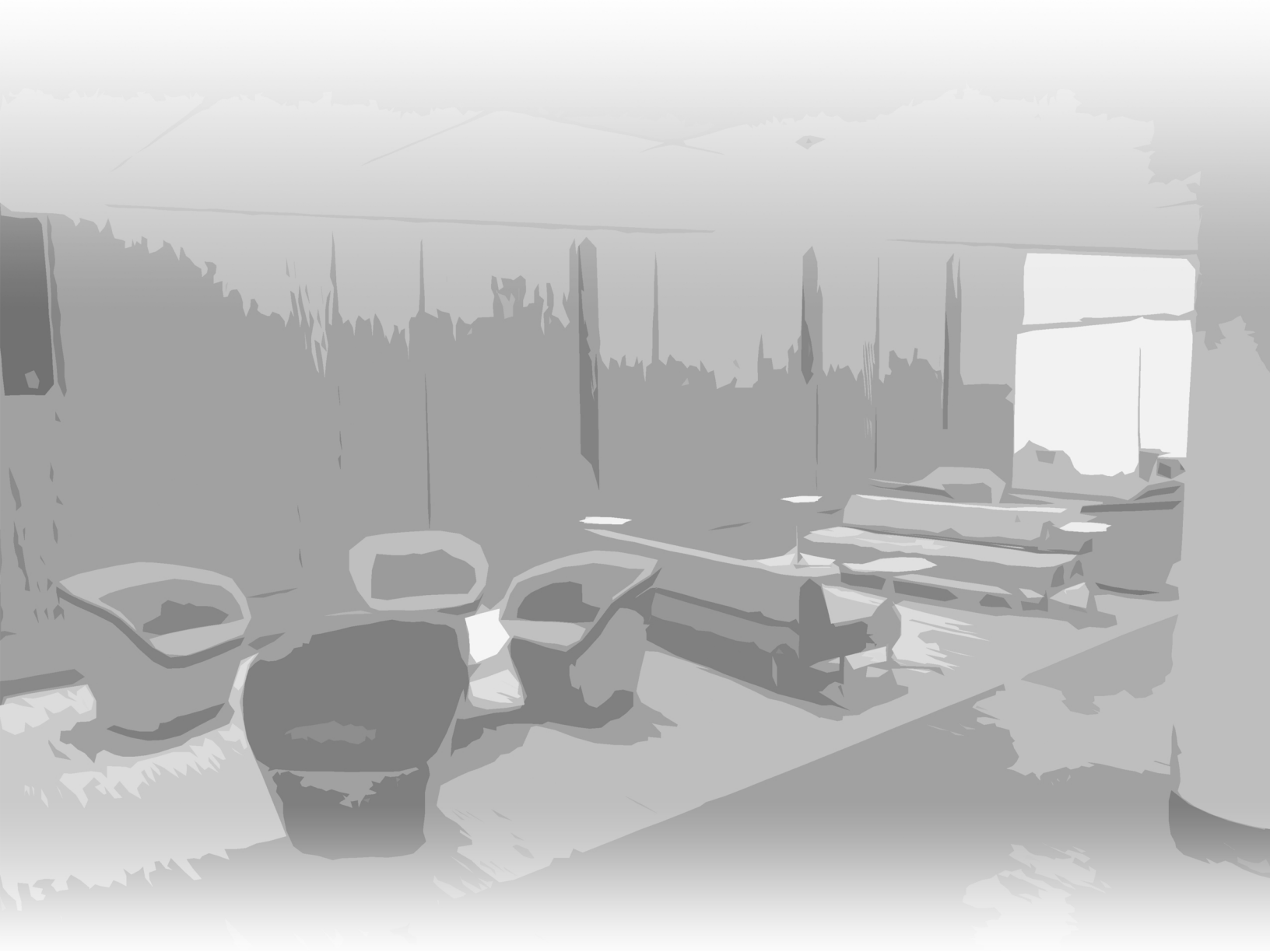
MAPT for Math

Level 2 Practice Test

Release Date: Spring 2018



Center for Educational Assessment

UMassAmherst

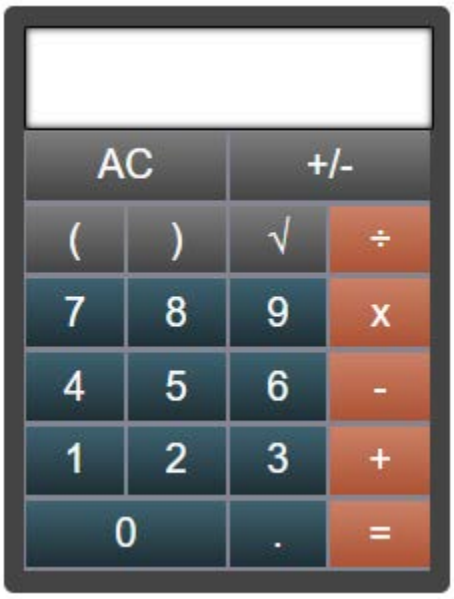
Overview of the MAPT for Math Practice Tests

In this document is a 20-item practice test for the MAPT for Math at Level 2.

Beginning July 1, 2018, the MAPT for Math calculator has been reformatted and is available for students to use on most items, but not all items. On questions where the calculator is allowed, a button is included on the item that students can click on to open the calculator on the computer screen.

▶ Show Calculator

Here is what the revised calculator in OWL looks like. It is a relatively basic, four-function calculator.



Also beginning July 1, 2018, the MAPT for Math formula page has been revised and is available for students to access and use on all items. The formula page can be accessed online by clicking on the button shown below to open the page on the computer screen. In addition, programs can print the formula page and students can have a paper copy to refer to during testing. On the next page is a copy of the formula page that is available in OWL.

▶ Show Formula Page

MAPT Formula Page

Formulas that you may need to solve some questions on this exam are found below. Please note that formulas are not necessary for all items.

CIRCUMFERENCE:

Circle	Circumference = π (diameter)	where π = 3.14

AREA:

Parallelogram	Area = (base) (height)	
Trapezoid	Area = $\frac{1}{2}$(base$_1$ + base$_2$) (height)	
Triangle	Area = $\frac{1}{2}$(base) (height)	
Circle	Area = π (radius)^2	where π = 3.14

VOLUME:

Cylinder	Volume = (area of base) (height)	
Pyramid	Volume = $\frac{1}{3}$ (area of base) (height)	
Cone	Volume = $\frac{1}{3}$(area of base) (height)	
Sphere	Volume = $\frac{4}{3}$ π (radius)^3	where π = 3.14

PYTHAGOREAN RELATIONSHIP: $a^2 + b^2 = c^2$ where **a** and **b** are legs and **c** is the hypotenuse of a right triangle

QUADRATIC FORMULA: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

MEASURES OF CENTRAL TENDENCY:

Mean or *Average* is the equal to the total of the values in a data set divided by the number of elements in the data set.

Median is the middle value in an odd number of ordered values of a data set, or the mean of the two middle values in an even number of ordered values in a data set.

COORDINATE GEOMETRY: $\text{slope} = \frac{\text{change in y}}{\text{change in x}}$

SIMPLE INTEREST: (principal) (rate) (time)
DISTANCE: (rate) (time)

1

▶ Show Formula Page ▶ Show Calculator

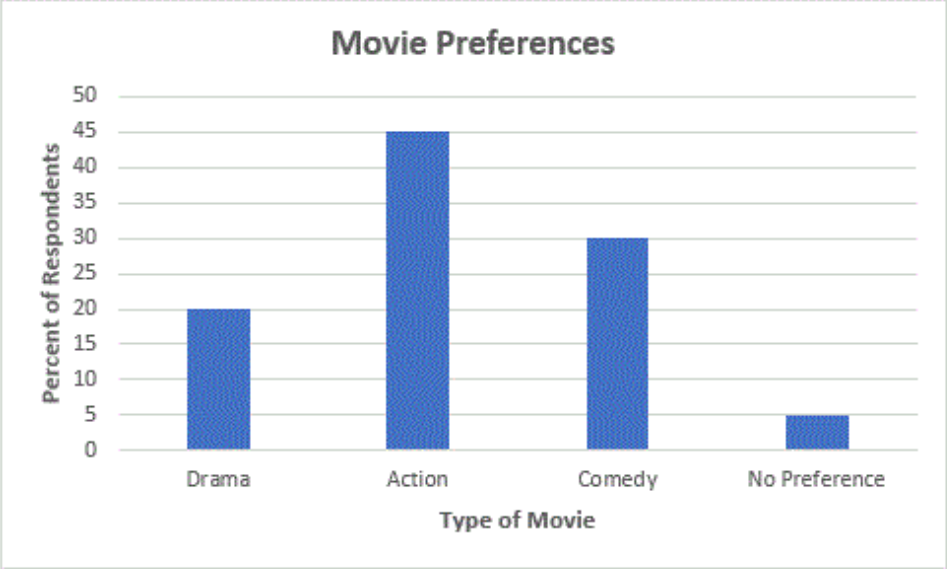
What number is five hundred ninety?

- 59
- 509
- 590
- 5090

2

▶ Show Formula Page ▶ Show Calculator

Priya took a survey of people's movie preferences. A graph of her results appears below.



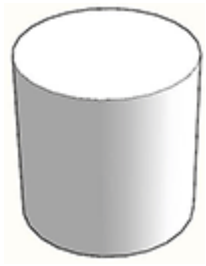
Based on the results in the graphs, if she had surveyed 1,000 people, about how many people would say they prefer comedies?

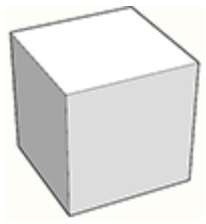
- 520 people
- 300 people
- 240 people
- 120 people

3

▶ Show Formula Page ▶ Show Calculator

Which shape below is a cylinder?





4

▶ Show Formula Page ▶ Show Calculator

The two statements below describe the number of red, blue and green balls in a box.

- The number of blue balls is greater than the number of green balls.
- The number of red balls is equal to the number of green balls.

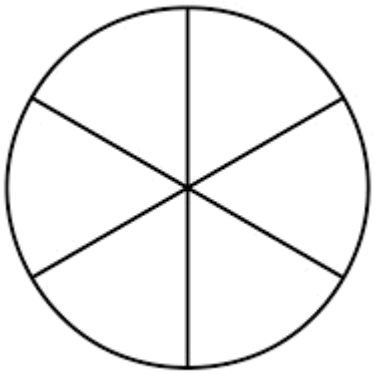
How many of each ball could be in the box?

- 2 red, 1 blue, 2 green
- 1 red, 2 blue, 3 green
- 3 red, 3 blue, 3 green
- 1 red, 2 blue, 1 green

5

▶ Show Formula Page ▶ Show Calculator

What are the fractional parts of this circle called?



- thirds
- fourths
- sixths
- eighths

6

▶ Show Formula Page

A family went on a two day trip.

They traveled 371 miles the first day and 209 miles the second day.

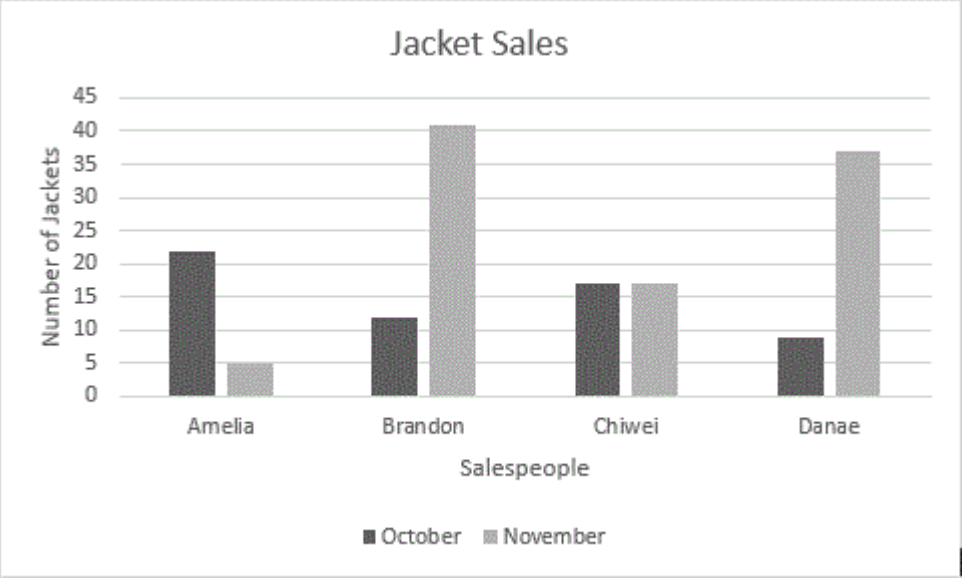
How many miles did they travel in total?

- 579 miles
- 580 miles
- 679 miles
- 680 miles

7

▶ Show Formula Page ▶ Show Calculator

Use the graph below to answer the following question.



Based on the graph, which statement about sales in the month of **October** is true?

- Amelia and Chiwei sold the same amount.
- Danae sold less than everyone.
- Brandon sold more than everyone.
- Danae and Brandon sold the same amount.

8

▶ Show Formula Page

Find the missing factor.

7 x ☐ = 56

- 6
- 7
- 8
- 9

9

▶ Show Formula Page ▶ Show Calculator

Josie has four number cards.

If Josie makes the smallest 3-digit number she can from those cards, what digit will be in the tens column of her 3-digit number?

- 1
- 3
- 6
- 8

10

▶ Show Formula Page ▶ Show Calculator

What option completes the number sentence below?

3 x 8 = ☐ ?

- 3 + 8
- 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3
- $\frac{3}{8}$
- 3 x 3 x 3 x 3 x 3 x 3 x 3 x 3

11

▶ Show Formula Page ▶ Show Calculator

How many vertices does an isosceles trapezoid have?

- 3
- 4
- 5
- 6

12

Show Formula Page | Show Calculator

What time is shown on the clock below?

- 10:50
- 10:25
- 5:10
- 5:11

13

Show Formula Page | Show Calculator

Consider the picture below.

Which equation helps you tell how many stars are shown?

- 4 + 4 + 4 + 4 = ?
- 4 x 5 = ?
- 5 + 4 = ?
- 4 x 1 = ?

14

▶ Show Formula Page ▶ Show Calculator

Tamara is in charge of counting people on flights out of a regional airport.

On Friday, 4903 people departed. On Saturday, 5744 people departed. On Sunday, 3601 people departed.

How many people flew out of the airport over the three days?

- 7993
- 9874
- 10348
- 14248

15

▶ Show Formula Page ▶ Show Calculator

Sixteen students in a class of 30 picked blue folders to keep their assignments in.

The remaining students chose red folders.

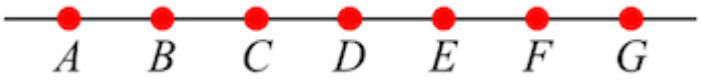
Which of the following statements is TRUE?

- There are 46 students in the school.
- About half of the students have red folders.
- Exactly half the students have blue folders.
- More students have red folders than blue folders.

16

▶ Show Formula Page ▶ Show Calculator

Look at the number line below. The points labeled A through G are spaced evenly along the line.



Which of the following distances is the greatest?

- From *A* to *D*
- From *B* to *C*
- From *C* to *G*
- From *G* to *D*

17

▶ Show Formula Page ▶ Show Calculator

What is the missing number in the series below?

4, 8, 12, 16, ☐

- 20
- 21
- 22
- 24

18

▶ Show Formula Page ▶ Show Calculator

Consider the number sentence below.

3 hundreds + 2 ones > ☐

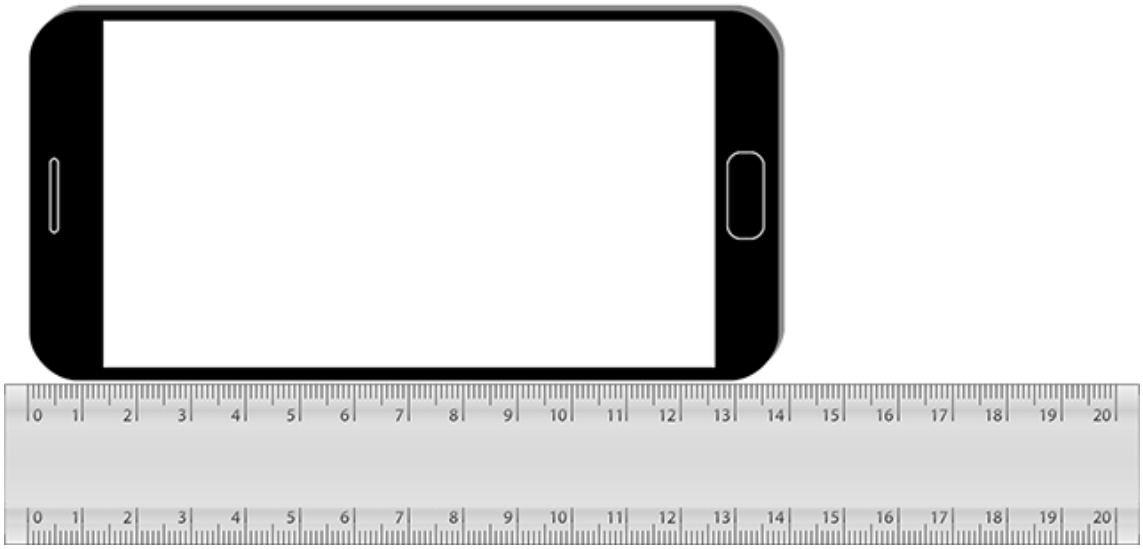
What number could fill in the box to make the number sentence TRUE?

- 299
- 307
- 333
- 370

19

▶ Show Formula Page ▶ Show Calculator

Dana uses the ruler below to measure the length of a smartphone. What is the length of the phone in centimeters?



- ○ 12cm
- ○ 13cm
- ○ 14cm
- ○ 15cm

20

▶ Show Formula Page ▶ Show Calculator

Which equation below represents the following number sentence?

Eight minus three equals five

- ○ 8 x 3 = 5
- ○ 8 + 3 = 5
- ○ 8 - 3 = 5
- ○ 5 + 3 = 8

Sequence	Standard	COR	Key	Difficulty
1	2.NBT.3	CU	C	283
2	2.MD.10	PU	B	309
3	2.G.1	CU	A	200
4	3.OA.8	ST	D	341
5	3.NF.1	CU	C	311
6	2.NBT.7	PU	D	243
7	3.MD.3	ST	B	328
8	3.OA.4	CU	C	232
9	2.NBT.3	ST	B	255
10	3.OA.7	PU	B	200
11	3.G.1	PU	B	249
12	3.MD.1	CU	B	200
13	3.OA.1	ST	B	298
14	3.NBT.2	PU	D	244
15	3.NF.1	ST	B	432
16	2.MD.6	CU	C	202
17	3.OA.8	PU	A	200
18	2.NBT.4	CU	A	241
19	2.MD.3	PU	C	208
20	3.OA.1	CU	C	286