



FSA
ELA & Mathematics
Assessments

Grade 7
FSA Mathematics
Practice Test Questions

The purpose of these practice test materials is to orient teachers and students to the types of questions on paper-based FSA Mathematics tests. By using these materials, students will become familiar with the types of items and response formats they may see on a paper-based test. The practice questions and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test. The practice test is not intended to guide classroom instruction.

**Directions for Answering the
Mathematics Practice Test Questions**

If you don't know how to work a problem, ask your teacher to explain it to you. Your teacher has the answers to the practice test questions.

You may need formulas and conversions to help you solve some of the problems. You may refer to the Reference Sheet on page 5 as often as you like.

Use the space in your Mathematics Practice Test Questions booklet to do your work.

Directions for Completing the Response Grids

1. Work the problem and find an answer.
2. Write your answer in the answer boxes at the top of the grid.
 - Write your answer with the first digit in the left answer box OR with the last digit in the right answer box.
 - Write only one digit or symbol in each answer box. Do NOT leave a blank answer box in the middle of an answer.
 - Be sure to write a decimal point, negative sign, or fraction bar in the answer box if it is a part of the answer.
3. Fill in a bubble under each box in which you wrote your answer.
 - Fill in one and ONLY one bubble for each answer box. Do NOT fill in a bubble under an unused answer box.
 - Fill in each bubble by making a solid mark that completely fills the circle.
 - You MUST fill in the bubbles accurately to receive credit for your answer.

⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
⌊	⌊	⌊	⌊	⌊	⌊	⌊	⌊
⋅	⋅	⋅	⋅	⋅	⋅	⋅	⋅
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

} Answer boxes

} Negative sign

} Fraction bar

} Decimal point

} Number bubbles

When a percent is required to answer a question, do NOT convert the percent to its decimal or fractional equivalent. Grid in the percent value without the % symbol. Do the same with dollar amounts.

-	1	1				
⊖	⊖	⊖	⊖	⊖	⊖	⊖
/	/	/	/	/	/	/
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	●	●	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

		-	6	.	7	8
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/	/	/	/	/	/	/
⊙	⊙	⊙	⊙	●	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	●	6	6	6
7	7	7	7	7	●	7
8	8	8	8	8	8	●
9	9	9	9	9	9	9

2	5	.	3			
⊖	⊖	⊖	⊖	⊖	⊖	⊖
/	/	/	/	/	/	/
⊙	⊙	●	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	●	2	2	2	2	2
3	3	3	●	3	3	3
4	4	4	4	4	4	4
5	●	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

				1	3	6
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⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	●	1	1
2	2	2	2	2	2	2
3	3	3	3	3	●	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	●
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Do NOT write a mixed number, such as $13\frac{1}{4}$, in the answer boxes.

Change the mixed number to an equivalent fraction, such as $\frac{53}{4}$, or to an

equivalent decimal, such as 13.25. Do not try to fill in $13\frac{1}{4}$, as it would be

read as $\frac{131}{4}$ and would be counted wrong.

CORRECT

INCORRECT

5	3	/	4			
⊖	⊖	⊖	⊖	⊖	⊖	⊖
/	●	/	/	/	/	/
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	●	3	3	3	3	3
4	4	4	●	4	4	4
●	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

OR

1	3	.	2	5		
⊖	⊖	⊖	⊖	⊖	⊖	⊖
/	/	/	/	/	/	/
⊙	⊙	●	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
●	1	1	1	1	1	1
2	2	2	●	2	2	2
3	●	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	●	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

1	3	1	/	4		
⊖	⊖	⊖	⊖	⊖	⊖	⊖
/	/	●	/	/	/	/
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
●	1	●	1	1	1	1
2	2	2	2	2	2	2
3	●	3	3	3	3	3
4	4	4	●	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Grade 7 FSA Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 year = 365 days
1 year = 52 weeks

Formulas

$$A = bh$$

$$A = lw$$

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

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$V = Bh$$

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

$$SA = Ph + 2B$$

$$SA = \frac{1}{2}P\ell + B$$

Use the space in this booklet to do your work. For multiple-choice items, fill in one bubble for the correct answer. For matching items and multiselect items, fill in the bubbles for all of the correct answers. For items with response grids, refer to the Directions for Completing the Response Grids on pages 3 and 4. If you change your answer, be sure to erase completely. Calculators are NOT permitted for Session 1 of this practice test.

1. The local weather report states that there is more than a $\frac{2}{3}$ chance of rain for Saturday.

What is the likelihood that it will rain on Saturday?

- (A) It is certain to rain on Saturday.
- (B) It is likely to rain on Saturday.
- (C) It is neither likely nor unlikely to rain on Saturday.
- (D) It is impossible that it will rain on Saturday.

2. The cost of a barrel of beans, b , fluctuates by 17% in both directions during a three-month period.

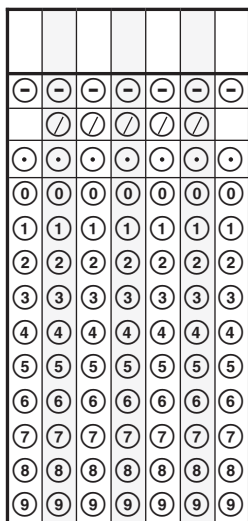
Match each verbal description of the high and low cost of a barrel of beans with all equivalent expressions.

	$b + 0.17b$	$b - 0.17b$	$b - 1.17b$	$-0.17b$	$0.83b$	$1.17b$
b is increased by 17%	(A)	(B)	(C)	(D)	(E)	(F)
b is decreased by 17%	(G)	(H)	(I)	(J)	(K)	(L)

3. A spinner is divided into blue, green, and red parts. George spins the spinner 300 times. A table of outcomes is shown.

Part	Times Spun
Blue	91
Green	107
Red	102

Based on this data, what is the estimated probability of the spinner landing on red?



4. What is $\frac{2}{3}$ written as a decimal?

- Ⓐ 0.23
- Ⓑ 0.6
- Ⓒ $0.\overline{6}$
- Ⓓ 1.5

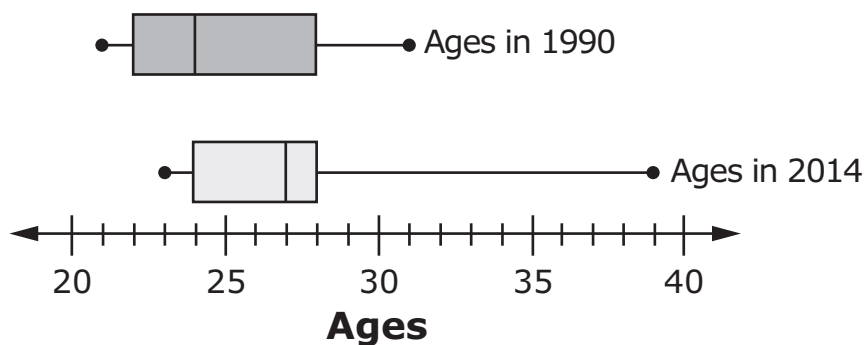
5. Tony has a bucket filled with green, blue, yellow, and red markers. He removes 3 markers from the bucket, with replacement.

Select all the outcomes that are possible.

- Ⓐ All of the markers removed are the same color.
- Ⓑ Only 1 marker of each color is removed.
- Ⓒ There are equal numbers of green and blue markers removed.
- Ⓓ There are equal numbers of red and yellow markers removed.
- Ⓔ There are only 2 colors of markers removed, and they were removed an equal number of times.

6. Survey data involving two random samples of students at a law school are shown. The surveys were taken comparing the age of students in 1990 to the age of students in 2014.

Age of Law School Students



Select all the statements that are true about the two samples of students.

- Ⓐ In 2014, the oldest student was 28 years old.
- Ⓑ In 2014, 50% of students were over 28 years old.
- Ⓒ In 1990, 75% of students were at least 24 years old.
- Ⓓ In 2014, the median age of students was greater than the median age in 1990.
- Ⓔ In 1990, there was a 10-year age difference between the oldest and youngest students.

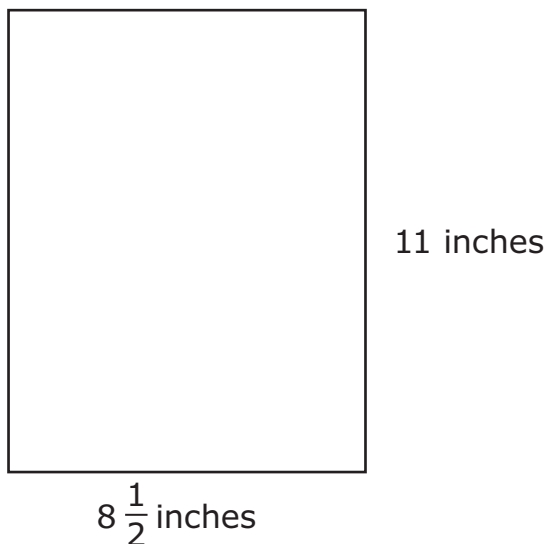
Use the space in this booklet to do your work. For multiple-choice items, fill in one bubble for the correct answer. For matching items and multiselect items, fill in the bubbles for all of the correct answers. For items with response grids, refer to the Directions for Completing the Response Grids on pages 3 and 4. If you change your answer, be sure to erase completely. Scientific calculators may be used for Session 2 of this practice test.

7. A company has three sales departments (local, regional, and national) at each of several locations across the United States. Each local sales department has 120 employees. The company wants to survey its employees to determine the most effective sales method.

Which sample should the company use to arrive at the most reliable conclusion?

- Ⓐ 24 employees from one sales department at one location
- Ⓑ 24 employees from one sales department at each location
- Ⓒ 24 employees from each sales department at one location
- Ⓓ 24 employees from each sales department at each location

8. Ads Galore makes posters with standard dimensions of $8\frac{1}{2}$ inches by 11 inches as shown.



Both the length and width of the poster may vary by $\frac{1}{20}\%$, according to Ads Galore's regulations.

What is the smallest acceptable area of one poster, rounded to the nearest thousandth of a square inch?

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

9. The dimensions of a rectangular pool are 24.5 feet by 13 feet. The depth of the water is 4 feet. Each cubic foot contains 7.48 gallons of water.

How many gallons of water, to the nearest tenth, are needed to fill the pool to 80% capacity?

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

10. The table shows the amount of snowfall, in inches, during a snowstorm in Huntsville after certain numbers of hours.

Snowfall (inches)	Time (hours)
5	6
7.5	9
12.5	15

Complete the sentence about the relationship between the amount of snowfall and the number of hours. For each box, fill in the bubble before the word or phrase that is correct.

According to the table, the amount of snowfall

- ☐ (A) is proportional
☐ (B) is not proportional

to the number of hours because snow

- ☐ (A) is present
☐ (B) is not present

on the ground

before the snowstorm and the snowfall

- ☐ (A) stays the same amount
☐ (B) increases by the same amount
☐ (C) increases by different amounts

each hour.

- 11.** The circumference of a circle is 53.38 centimeters.

What is the area in square centimeters? Use 3.14 for π .

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

12. A recipe calls for $\frac{2}{3}$ cup of sugar for every $\frac{1}{2}$ teaspoon of vanilla.

What is the unit rate of cups per teaspoon?

-	-	-	-	-	-	-
/	/	/	/	/	/	/
.
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

13. Kara mixes different colors of paint to create new colors. The table shows the amount of paint Kara mixes per batch.

Ounces of Paint

Batch	Blue	White	Yellow
1	2	1.5	1
2	5	3.5	2.5
3	7	5.5	3.5
4	6	4.5	3
5	4	3	2
6	3	2	1.5

Select all the batches that will create the same color as the first batch.

- Ⓐ Batch 2
- Ⓑ Batch 3
- Ⓒ Batch 4
- Ⓓ Batch 5
- Ⓔ Batch 6

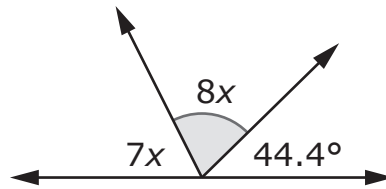
14. A bag contains 4 red, 4 blue, 4 green, and 4 yellow marbles. A marble is randomly pulled from the bag and replaced seven times. The table shows the outcome of the experiment.

Trial	Outcome
1	Yellow
2	Blue
3	Yellow
4	Red
5	Blue
6	Yellow
7	Yellow

Which marble color's observed frequency is closest to its expected frequency?

- Ⓐ red
- Ⓑ blue
- Ⓒ green
- Ⓓ yellow

15. A figure is shown.



What is the measure, in degrees, of the shaded angle?

\ominus	\ominus	\ominus	\ominus	\ominus	\ominus	\ominus
\oslash	\oslash	\oslash	\oslash	\oslash	\oslash	\oslash
\odot	\odot	\odot	\odot	\odot	\odot	\odot
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

- 16.** A company plans to ship 2,000 packages of chocolate. The company randomly selects 100 packages and finds that five packages have an incorrect weight.

Based on this data, how many packages out of the 2,000 should be predicted to have an incorrect weight?

-	-	-	-	-	-	-
/	/	/	/	/	/	/
.
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9



FSA
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Grade 7
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Practice Test Answer Key

The Grade 7 FSA Mathematics Practice Test Answer Key provides the correct response(s) for each item on the practice test. The practice questions and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test.

1. The local weather report states that there is more than a $\frac{2}{3}$ chance of rain for Saturday.

What is the likelihood that it will rain on Saturday?

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2. The cost of a barrel of beans, b , fluctuates by 17% in both directions during a three-month period.

Match each verbal description of the high and low cost of a barrel of beans with all equivalent expressions.

	$b + 0.17b$	$b - 0.17b$	$b - 1.17b$	$-0.17b$	$0.83b$	$1.17b$
b is increased by 17%	<input checked="" type="radio"/>	<input type="radio"/> (B)	<input type="radio"/> (C)	<input type="radio"/> (D)	<input type="radio"/> (E)	<input checked="" type="radio"/>
b is decreased by 17%	<input type="radio"/> (G)	<input checked="" type="radio"/>	<input type="radio"/> (I)	<input type="radio"/> (J)	<input checked="" type="radio"/>	<input type="radio"/> (L)

3. A spinner is divided into blue, green, and red parts. George spins the spinner 300 times. A table of outcomes is shown.

Part	Times Spun
Blue	91
Green	107
Red	102

Based on this data, what is the estimated probability of the spinner landing on red?

			0	.	3	4
⊖	⊖	⊖	⊖	⊖	⊖	⊖
⊘	⊘	⊘	⊘	⊘	⊘	⊘
⊙	⊙	⊙	⊙	●	⊙	⊙
0	0	0	●	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	●	3
4	4	4	4	4	4	●
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Other correct responses: $102/300$

4. What is $\frac{2}{3}$ written as a decimal?

- ☐ (A) 0.23
- ☐ (B) 0.6
- ☒ (C) $0.\overline{6}$
- ☐ (D) 1.5

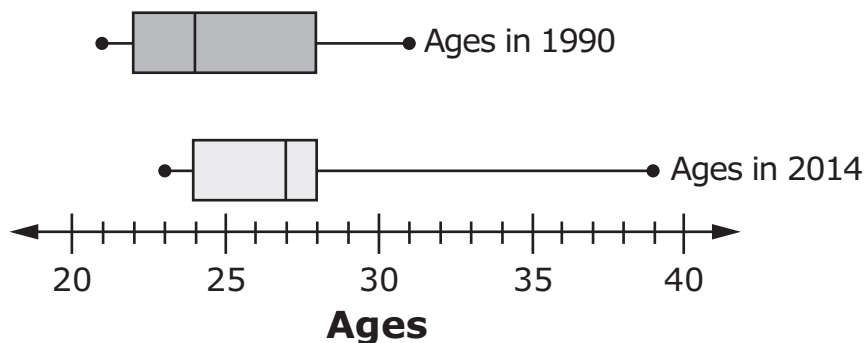
5. Tony has a bucket filled with green, blue, yellow, and red markers. He removes 3 markers from the bucket, with replacement.

Select all the outcomes that are possible.

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- ☐ (E) There are only 2 colors of markers removed, and they were removed an equal number of times.

6. Survey data involving two random samples of students at a law school are shown. The surveys were taken comparing the age of students in 1990 to the age of students in 2014.

Age of Law School Students



Select all the statements that are true about the two samples of students.

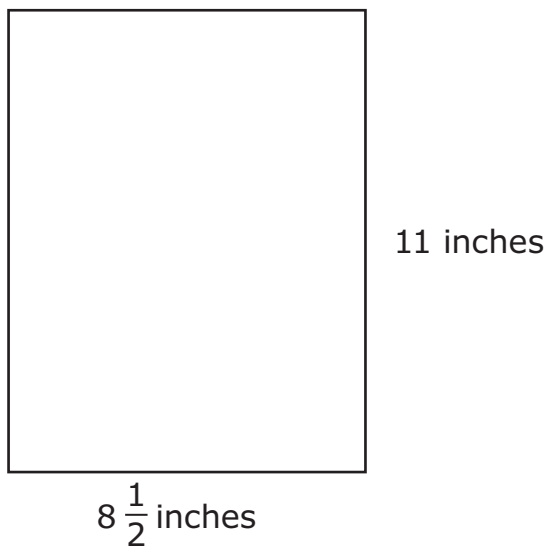
- ☐ (A) In 2014, the oldest student was 28 years old.
- ☐ (B) In 2014, 50% of students were over 28 years old.
- ☐ (C) In 1990, 75% of students were at least 24 years old.
- ☒ In 2014, the median age of students was greater than the median age in 1990.
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Both the length and width of the poster may vary by $\frac{1}{20}\%$, according to Ads Galore's regulations.

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	9	3	.	4	0	7
-	-	-	-	-	-	-
/	/	/	/	/	/	/
•	•	•	•	•	•	•
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
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How many gallons of water, to the nearest tenth, are needed to fill the pool to 80% capacity?

	7	6	2	3	.	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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10. The table shows the amount of snowfall, in inches, during a snowstorm in Huntsville after certain numbers of hours.

Snowfall (inches)	Time (hours)
5	6
7.5	9
12.5	15

Complete the sentence about the relationship between the amount of snowfall and the number of hours. For each box, fill in the bubble before the word or phrase that is correct.

According to the table, the amount of snowfall

- ☒ is proportional
☐ is not proportional

to the number of hours because snow

- ☐ is present
☒ is not present

on the ground

before the snowstorm and the snowfall

- ☐ stays the same amount
☒ increases by the same amount
☐ increases by different amounts

each hour.

11. The circumference of a circle is 53.38 centimeters.

What is the area in square centimeters? Use 3.14 for π .

2	2	6	.	8	6	5
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12. A recipe calls for $\frac{2}{3}$ cup of sugar for every $\frac{1}{2}$ teaspoon of vanilla.

What is the unit rate of cups per teaspoon?

				4	/	3
-	-	-	-	-	-	-
	/	/	/	/	●	
•	•	•	•	•	•	•
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	●
4	4	4	4	●	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

- 13.** Kara mixes different colors of paint to create new colors. The table shows the amount of paint Kara mixes per batch.

Ounces of Paint

Batch	Blue	White	Yellow
1	2	1.5	1
2	5	3.5	2.5
3	7	5.5	3.5
4	6	4.5	3
5	4	3	2
6	3	2	1.5

Select all the batches that will create the same color as the first batch.

- ☐ Ⓐ Batch 2
- ☐ Ⓑ Batch 3
- ☒ Ⓒ Batch 4
- ☒ Ⓓ Batch 5
- ☐ Ⓔ Batch 6

- 14.** A bag contains 4 red, 4 blue, 4 green, and 4 yellow marbles. A marble is randomly pulled from the bag and replaced seven times. The table shows the outcome of the experiment.

Trial	Outcome
1	Yellow
2	Blue
3	Yellow
4	Red
5	Blue
6	Yellow
7	Yellow

Which marble color's observed frequency is closest to its expected frequency?

- ☐ Ⓐ red
- ☒ Ⓑ blue
- ☐ Ⓒ green
- ☐ Ⓓ yellow

		7	2	.	3	2
-	-	-	-	-	-	-
	/	/	/	/	/	
•	•	•	•	●	•	•
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	●	2	2	●
3	3	3	3	3	●	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	●	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

- 16.** A company plans to ship 2,000 packages of chocolate. The company randomly selects 100 packages and finds that five packages have an incorrect weight.

Based on this data, how many packages out of the 2,000 should be predicted to have an incorrect weight?

				1	0	0
-	-	-	-	-	-	-
/	/	/	/	/	/	/
.
0	0	0	0	0	●	●
1	1	1	1	●	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9