Santa Rosa County District Schools

GRADE 7 MATH

FSA Practice Answer Key

Department of Math & Science

Grade 7 Mathematics

Turnkey Educator Resources

Equation Editor Item Tutorial

FSA Scientific Calculator

FSA Mathematics Reference Sheet Packet

Grade 7 Mathematics Test Item Specifications

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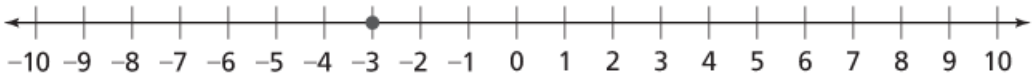
FSA Grade 7 Practice (NONCALCULATOR)

Standard	MAFS.7.EE.1.1
1.	What is the difference of the two expressions? $\left(\frac{3}{5}x+2\right)-\left(\frac{1}{5}x-6\right)$ Ⓐ $\frac{2}{5}x-4$ Ⓑ $\frac{2}{5}x+8$ Ⓒ $\frac{4}{5}x-4$ Ⓓ $\frac{4}{10}x+8$
Answer	B
Standard	MAFS.7.EE.1.1
2.	Select all of the expressions that are equivalent to $30b-45$. Ⓐ $-5(9-6b)$ Ⓑ $3(15+10b)$ Ⓒ $3(10b-15)$ Ⓓ $-5(6b+9)$ Ⓔ $15(2b-3)$
Answer	A, C, E

Standard	MAFS.7.EE.1.2
3.	Which expression represents that *x* was decreased by 20% and then tripled? Ⓐ $3(0.20x - x)$ Ⓑ $3(x - 0.20x)$ Ⓒ $3(1.20x - x)$ Ⓓ $3(x - 1.20x)$
Answer	B
Standard	**MAFS.7.EE.1.2**
4.	A bicycle rental company has *b* bikes. The company decides to retire 10% of the bikes. Which expression represent the number of bikes the company has left? Ⓐ $0.10b - b$ Ⓑ $b - 10b$ Ⓒ $0.10b$ Ⓓ $(1 - 0.10)b$
Answer	D

Standard	MAFS.7.NS.1.1a
5.	Select all of the points that are 6.5 units from -3 on the number line.  Ⓐ 9.5 Ⓑ −6.5 Ⓒ 3.5 Ⓓ −3.5 Ⓔ −9.5
Answer	C, E
Standard	**MAFS.7.NS.1.1b**
6.	After a heavy rainfall, the depth of a pond rises by 12 centimeters. Over the next three days, the pond returns to its original depth. Which integer represents the change in the pond's depth over those three days? _____
Answer	-12

Standard	MAFS.7.NS.1.1c
7.	Match each subtraction statement with its equivalent addition statement.

	$4+6$	$-7+5$	$-7+(-5)$	$4+(-6)$
$4-6$	Ⓐ	Ⓑ	Ⓒ	Ⓓ
$4-(-6)$	Ⓔ	Ⓕ	Ⓖ	Ⓗ
$-7-5$	Ⓘ	Ⓙ	Ⓚ	Ⓛ
$-7-(-5)$	Ⓜ	Ⓝ	Ⓞ	Ⓟ

Answer	D, E, K, N
Standard	MAFS.7.NS.1.1d
8.	What is the value of the expression?

$$-4\frac{2}{5}+3\frac{1}{10}$$

Ⓐ $7\frac{1}{2}$

Ⓑ $1\frac{3}{10}$

Ⓒ $-1\frac{3}{10}$

Ⓓ $-7\frac{1}{2}$

Answer	C

Standard	MAFS.7.NS.1.2a
9.	For which situation could the product of $5\left(-\frac{1}{2}\right)$ be used to answer the question? Ⓐ Li gives two quarters to five different friends. What is the change in the amount of money he has, in dollars? Ⓑ Talisa dives 5 feet underwater. Sam dives half as far underwater. How far, in feet, does Sam dive? Ⓒ The temperature of a pool drops half a degree every two hours that the heater is not on. How much will the temperature change if the heater is not on for 5 hours? Ⓓ Guy increases the amount of time that he runs by half an hour each day. How much did his running time change after 5 days?
Answer	A
Standard	**MAFS.7.NS.1.2b**
10.	Select all of the expressions that are equivalent to $-21 \div 22$. Ⓐ $\frac{-21}{-22}$ Ⓑ $\frac{21}{-22}$ Ⓒ $\frac{-21}{22}$ Ⓓ $-\frac{21}{22}$ Ⓔ $\frac{21}{22}$
Answer	B, C, D

Standard	MAFS.7.NS.1.2c
11.	Match each expression with an equivalent expression.

	$\frac{15}{16}$	$\frac{5}{12}$	$-\frac{5}{12}$	$-\frac{15}{16}$
$\frac{2}{3}\left(-\frac{5}{8}\right)$	Ⓐ	Ⓑ	Ⓒ	Ⓓ
$-\frac{5}{8}\div\frac{2}{3}$	Ⓔ	Ⓕ	Ⓖ	Ⓗ
$-\frac{2}{3}\left(-\frac{5}{8}\right)$	Ⓘ	Ⓙ	Ⓚ	Ⓛ
$-\frac{5}{8}\div\left(-\frac{2}{3}\right)$	Ⓜ	Ⓝ	Ⓞ	Ⓟ

Answer	C, H, J, M
Standard	MAFS.7.NS.1.2d
12.	What is $\frac{4}{5}$ written as a decimal?

Ⓐ $1.\overline{25}$

Ⓑ 1.25

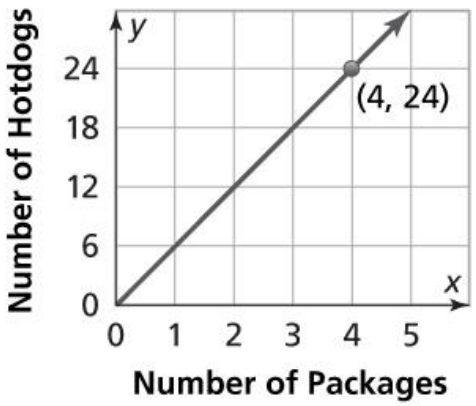
Ⓒ $0.\overline{8}$

Ⓓ 0.8

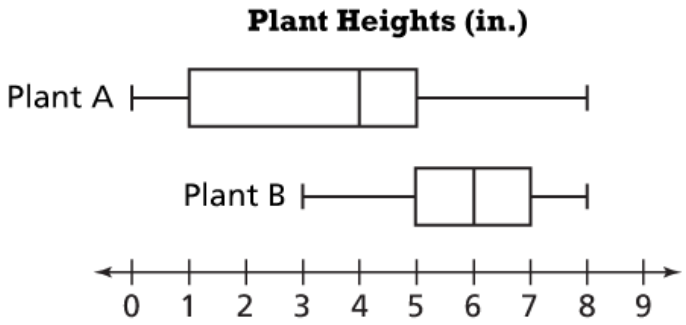
Answer	D

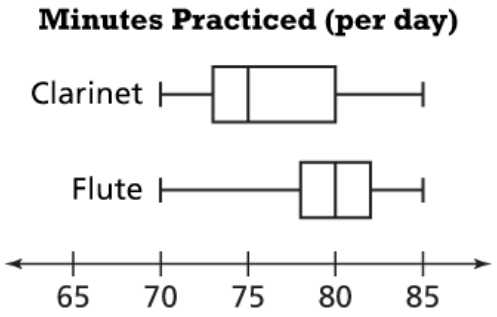
Standard	MAFS.7.NS.1.3
13.	Samantha is playing a video game where each challenger she defeats gains her $1\frac{1}{2}$ hearts and each time she is defeated, she loses $-\frac{1}{4}$ heart. If she wins 46 out of 50 challenges, how many hearts does she have? _____ hearts
Answer	61
Standard	**MAFS.7.NS.1.3**
14.	Robert's scores for each round of a game are listed in the table below. **Round** / **Score** 1 / –5.8 2 / 12.6 3 / ? 4 / –4.9 If his total score for all rounds combined is 9.3, what was his score for round 3? Score for Round 3 = _____
Answer	7.4

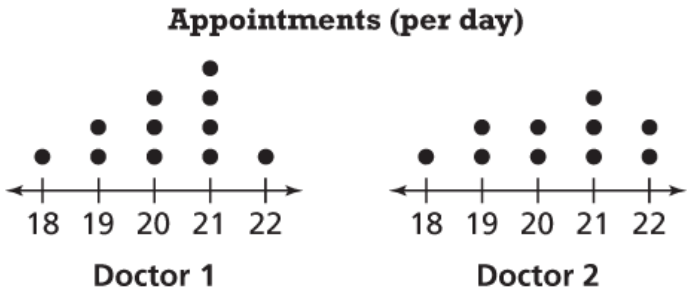
Standard	**MAFS.7.RP.1.2a**
15.	Select all of the tables that represent a proportional relationship between two quantities. Ⓐ 	x	3	4	5	6
---	---	---	---	---
y	9	12	15	18 | Ⓑ | x	1	2	3	4
---	---	---	---	---
y	4	6	8	10 | Ⓒ | x	3	4	5	6
---	---	---	---	---
y	9	16	25	36 | Ⓓ | x	1	2	3	4
---	---	---	---	---
y	2	4	6	8 | Ⓔ | x	2	4	6	8
---	---	---	---	---
y	1	2	3	4	 **Answer** A, D, E
Standard	**MAFS.7.RP.1.2c**
16.	A bird travels 71.2 kilometers after 2 hours of flying. Complete the equation to represent the number of hours, t, the bird will take to fly d kilometers at this rate. $d = \_\_\_\_ \cdot t$ **Answer** 35.6

Standard	MAFS.7.RP.1.2d
17.	This question has **two** parts. The graph below shows the number of hotdogs relative to the number of packages.  **Part A.** What does the point (4, 24) mean in the context of the situation? Ⓐ 4 packages have 24 hotdogs each. Ⓑ In 24 packages there are 4 hotdogs in all. Ⓒ There are 24 hotdogs in 4 packages. Ⓓ 24 packages have 4 hotdogs each. **Part B.** How many hotdogs are in 20 packages? _____ hotdogs
Answer	Part A C Part B 120

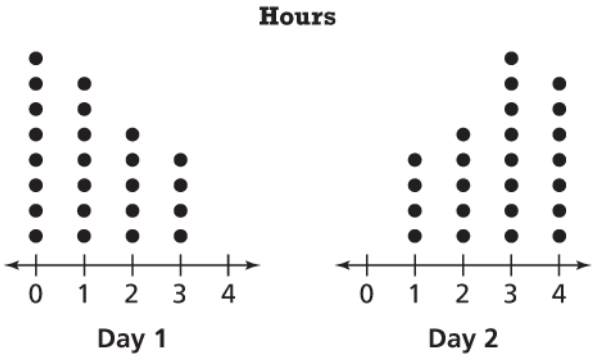
Standard	**MAFS.7.SP.1.1**
18.	A factory quality control check is planned to check that the weights of their boxes of pasta closely match the weights listed on the boxes. Which sampling method is the most representative of all of the boxes of pasta in a batch of 1000? Ⓐ Weigh any 10 boxes off the assembly line that the manager chooses. Ⓑ Weigh every 100th box off of the assembly line. Ⓒ Weigh every 10th box for the first 100 boxes off of the assembly line. Ⓓ Weigh the last 10 boxes off of the assembly line.
Answer	B
Standard	**MAFS.7.SP.1.1**
19.	Quentin measures the heights of 40 random plants at the local community garden. Darnell measures the heights of 40 random plants in the sunflower section of the same garden. Are these samples representative of the garden population? Ⓐ Both Darnell and Quentin have taken a representative sample. Ⓑ Neither Darnell nor Quentin have taken a representative sample. Ⓒ Darnell’s sample is representative, but Quentin’s is not. Ⓓ Quentin’s sample is representative, but Darnell’s is not.
Answer	D

Standard	MAFS.7.SP.1.2
20.	The box plot shows a sample of heights in inches for two different types of plants. Which plant do you expect grows taller? Why?  Ⓐ Plant B; the median height of Plant B is greater, so Plant B tends to be taller. Ⓑ Plant A; the range of Plant A is greater, so there are more plants to be taller. Ⓒ Plant A; the interquartile range of Plant A is larger, so 50% of all Plant As will be taller. Ⓓ Plant B; the interquartile range of Plant B is lesser, so it is more accurate.
Answer	A
Standard	**MAFS.7.SP.1.2**
21.	Julius purchased a bag of 32 potatoes and 4 of them weighed less than 2 oz. If Julius purchases 1000 potatoes, how many should he expect to weigh 2 oz or more? _____ potatoes
Answer	875

Standard	MAFS.7.SP.2.3
22.	The time spent practicing per day for a representative sample of flute players and of clarinet players are shown in the box plots.  Which group shows a greater variability in practice time? Explain. Ⓐ Flute players; the median for flute players is greater than the median for clarinet players. Ⓑ They show the same variability. Ⓒ Clarinet players; the third quartile of the clarinet players is equal to the median of the flute. Ⓓ Clarinet players; the interquartile range for clarinet players is greater than the interquartile range for flute players.
Answer	D

Standard	MAFS.7.SP.2.3
23.	Two doctors share an office. The dot plot shows the number of appointments Doctor 1 had in 11 days and Doctor 2 had in 10 days.  Another data point is added to the plot for Doctor 2 to make the median of the two data sets equal. Select all of the possible values this data point. Ⓐ 21 Ⓑ 19 Ⓒ 22 Ⓓ 18 Ⓔ 20
Answer	B, D, E

Standard	MAFS.7.SP.2.4
24.	Lito collected data about how much different fruits cost in his grocery store for a year and summarized it in a table. | | Mean ($/lb) \| MAD ($/lb) | |---|---|---| | Grapes | 3.24 | 0.25 | | Strawberries | 3.50 | 1.10 | | Cherries | 6.75 | 0.96 | Select all of the statements that are correct. Ⓐ The price of strawberries varies the most. Ⓑ If Lito pays $6.00 for a pound of fruit, it is most likely cherries. Ⓒ If Lito buys a pound of fruit for $3.33, it could only be grapes or strawberries. Ⓓ The price of cherries varies the most. Ⓔ Grapes generally cost the least.
Answer	A, B, E

Standard	MAFS.7.SP.2.4
25.	The dot plots show the number of hours spent outside by 24 campers at a summer camp on two different days.  What can be inferred from the data? Ⓐ All campers spent more time outside on Day 2. Ⓑ Some campers spent less time outside on Day 2. Ⓒ On average, the campers spent more time outside on Day 1. Ⓓ On average, the campers spent more time outside on Day 2.
Answer	D

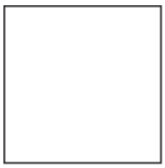
Standard	**MAFS.7.SP.3.5**
26.	A bag has green marbles, red marbles, and blue marbles. There is a $\frac{3}{10}$ chance of getting a green, a $\frac{5}{10}$ chance of getting a red, and a $\frac{2}{10}$ chance of getting a blue. Which event is the most likely? Ⓐ Getting a blue marble. Ⓑ They are all equally likely. Ⓒ Getting a green marble. Ⓓ Getting a red marble.
Answer	D
Standard	**MAFS.7.SP.3.5**
27.	Jarred spins a spinner with 8 equal-sized sections labeled 1 to 8. What is the probability Jarred will spin a 9? Ⓐ 0 Ⓑ $\frac{1}{2}$ Ⓒ 1 Ⓓ It cannot be determined from the information given.
Answer	A

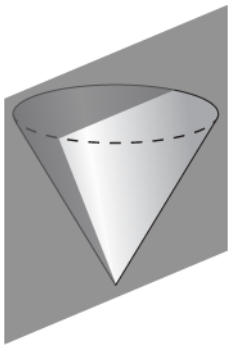
Standard	MAFS.7.SP.3.6
28.	A game at the fair has a player draw a marble out of a bag. There are blue, red, and purple marbles in the bag. If you draw a purple marble, you win. Presley watched 48 people draw a marble and recorded the results in a table. **Color** / **Number of Times Drawn** Blue — 16 Red — 18 Purple — 14 Presley thinks there is an equal number of each color marble in the bag. Is he likely correct? Explain. Ⓐ No; 37.5% of the trials resulted in a red marble, so I would expect 37.5% of the marbles in the bag to be red, compared to 33.3% of the marbles being blue. Ⓑ Presley did not watch a large enough number of people draw marbles to determine the number of each colored marble. Ⓒ Yes; if there were equal numbers of each color marble then each color should be drawn approximately 16 times. This matches the results, so that suggests Presley is correct. Ⓓ No; if there were equal numbers of each color marble the number of times drawn for each marble would be equal. This does not match Presley's results so there cannot be equal numbers of each marble.
Answer	C
Standard	**MAFS.7.SP.3.6**
29.	Teri generates 800 results using a random number generator. Each result is a digit from 1 to 5. Which statement best describes the frequency of the digit 4 among the results? Ⓐ The digit 4 will appear exactly 160 times. Ⓑ The digit 4 will appear about 160 times but probably not exactly 160 times. Ⓒ The digit 4 will appear exactly 200 times. Ⓓ The digit 4 will appear about 200 times but probably not exactly 160 times.
Answer	B

Standard	MAFS.7.SP.3.7a
30.	Toby's class is divided into five teams. The probability of being selected for Team A is 0.2 and the probability of being selected for Team B is 0.4. If the probability of being selected for Team C or Team D is 0.3, what is the probability of being selected for Team E? _____
Answer	0.1
Standard	**MAFS.7.SP.3.7b**
31.	A random sample of 100 university students on campus are asked: "What is your favorite sport?" The results are shown in the table. **Sport** | Soccer | Football | Basketball | Rugby **Count** | 25 | 20 | 15 | 40 Match each sport with its probability based on the frequencies observes in this survey. | | $\frac{3}{20}$ | $\frac{1}{4}$ | $\frac{2}{5}$ | $\frac{1}{5}$ | | **Soccer** | Ⓐ | Ⓑ | Ⓒ | Ⓓ | | **Football** | Ⓔ | Ⓕ | Ⓖ | Ⓗ | | **Basketball** | Ⓘ | Ⓙ | Ⓚ | Ⓛ | | **Rugby** | Ⓜ | Ⓝ | Ⓞ | Ⓟ |
Answer	B, H, I, O

Standard	MAFS.7.SP.3.8a
32.	Sanura randomly chooses art supplies for her project. She can choose: • Paint (P) or crayons (C) • White paper (W), black paper (B), or pink paper (Pi) • Stickers (S) or ribbon (R) Calculate the probability that Sanura's art project includes white paper and stickers. Give your answer as a decimal rounded to the nearest thousandth.
Answer	0.167
Standard	**MAFS.7.SP.3.8b**
33.	Aileen spins a spinner with equal-sized sections numbered 1-4, and then flips a coin. Select all of the true statements. Ⓐ The sample space has 8 outcomes in it, so the probability of spinning a 1 and then getting heads is $\frac{1}{8}$. Ⓑ The probability of spinning a 1 and getting heads is $\frac{1}{8}$ because the sample space has 16 outcomes in it and 2 of them involve spinning a 1 and getting heads. Ⓒ The probability that Aileen spins an odd number and gets heads is 25%. Ⓓ The probability that Aileen spins a 4 and gets heads is 12.5%. The probability of an event happening and of the event not happening must add up to 100%. Therefore, the probability that she does not spin a 4 or get heads is 87.5%. Ⓔ A table that correctly represents the sample space would have 4 rows and 2 columns, not including headers, or vice versa.
Answer	A, C, E

Standard	MAFS.7.SP.3.8c
34.	In Elijah's class, 60% of the students write with pencils and the rest write with pens. Elijah wants to simulate this preference using a fair number cube labeled 1-6. Can he do that? Explain. Ⓐ No, because there is no way to assign the numbers on the cube so that Elijah will have a 60% chance of rolling one of the numbers that represents pencils. Ⓑ Yes. For example, he can assign 1-4 to represents pencils, because there is a 60% probability of rolling 1-4 on a fair number cube. Ⓒ Yes. For example, he can assign the odd numbers to represent pens and even numbers to represent pencils, because the students write with either pencils or pens. Ⓓ No, because this situation is not a compound event.
Answer	A
Standard	**MAFS.7.G.1.2**
35.	Sanna wants to draw a triangle that has one side length of 9 centimeters and another side length of 8 centimeters. Which statement describes the possible lengths of the third side? Ⓐ It can be any length less than 17 centimeters. Ⓑ It can be any length. Ⓒ It can be any length greater than 1 centimeter. Ⓓ It can be any length greater than 1 centimeter and less than 17 centimeters.
Answer	D

Standard	MAFS.7.G.1.2
36.	Select all of the quadrilaterals that have exactly one line of symmetry. Ⓐ  Ⓑ  Ⓒ  Ⓓ  Ⓔ 
Answer	A, D

Standard	MAFS.7.G.1.3
37.	Martin and Alegria each cut a cone into two pieces. The cross section that results from Martin's cut is a triangle. The cross section that results from Alegria's cut is a circle. How was Alegria's cut different from Martin's cut? Ⓐ Alegria cut her cone near the top, and Martin cut his near the bottom. Ⓑ Alegria cut her cone vertically, and Martin cut his horizontally. Ⓒ Alegria cut her cone near the bottom, and Martin cut his near the top. Ⓓ Alegria cut her cone horizontally, and Martin cut his vertically.
Answer	D
Standard	**MAFS.7.G.1.3**
38.	A cone is sliced vertically as shown.  What shape is the cross section of the cone? Ⓐ A circle. Ⓑ An ellipse. Ⓒ A triangle. Ⓓ An irregular shape with a flat base and 2 curved sides.
Answer	C

FSA Grade 7 Practice (CALCULATOR)

Standard	MAFS.7.EE.2.3
1.	Alfonso has a $10 bill. At the grocery store, he buys a loaf of whole wheat bread for $1.99 and 9 bananas. He gets $5.13 in change. What is the price of one banana? Ⓐ $0.54 Ⓑ $2.88 Ⓒ $0.89 Ⓓ $0.32
Answer	D
Standard	MAFS.7.EE.2.3
2.	A watering can holds $74\frac{3}{4}$ ounces of water when full. The watering can loses $5\frac{3}{4}$ ounces of water per day through evaporation. In how many days will the watering can be 50% full? Ⓐ 26 days Ⓑ About 429.8 days Ⓒ 13 days Ⓓ 6.5 days
Answer	D

Standard	MAFS.7.EE.2.4a
3.	This question has **two** parts. Dakari makes 2 dozen jars of jam. The total weight of all of the filled jars is 211.2 ounces. When empty, each jar weighs 1.2 ounces. **Part A.** Which equation can be solved to calculate the weight, *j*, of jam in one jar? Ⓐ $j+1.2=211.2$ Ⓑ $j+1.2\times 24=211.2$ Ⓒ $24(j+1.2)=211.2$ Ⓓ $24j+1.2=211.2$ **Part B.** What is the weight of jam, in ounces, in one jar? _____ oz
Answer	Part A C Part B 7.6

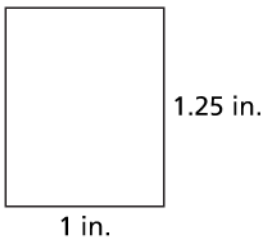
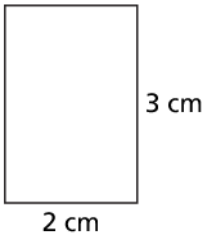
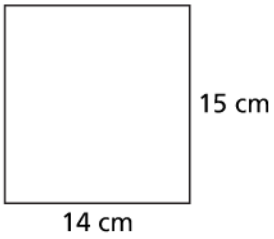
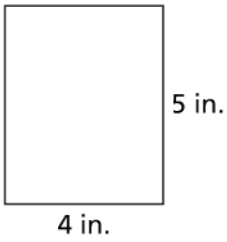
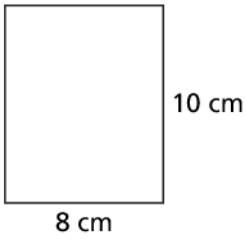
Standard	MAFS.7.EE.2.4b
4.	This question has **two** parts. Jamil has a $40 gift card to buy books online. The books he wants to buy cost $3.85 each. Shipping costs $6.50. **Part A.** Which inequality represents the number of books, *b*, that Jamil can buy? Ⓐ $3.85b + 6.50 \leq 40.00$ Ⓑ $(3.85 + 6.50)b \geq 40.00$ Ⓒ $3.85b + 6.50 \geq 40.00$ Ⓓ $(3.85 + 6.50)b \leq 40.00$ **Part B.** Select all of the numbers of books that Jahi can buy. Ⓐ 6 Ⓑ 12 Ⓒ 10 Ⓓ 2 Ⓔ 8
Answer	Part A A Part B A, D, E

Standard	MAFS.7.RP.1.1
5.	Match each rate with its equivalent unit rate.

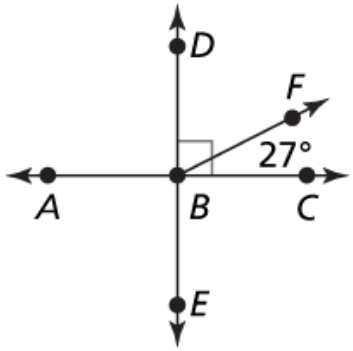
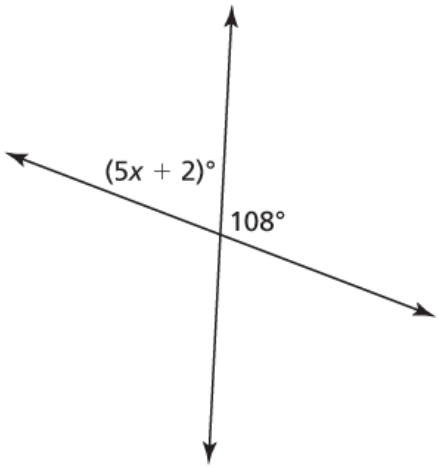
	$4:1$	$\frac{2\frac{1}{20}}{1}$	$\frac{\frac{24}{5}}{1}$	$8:1$
$\frac{\frac{12}{3}}{2}$	Ⓐ	Ⓑ	Ⓒ	Ⓓ
$10\frac{1}{4}$ to 5	Ⓔ	Ⓕ	Ⓖ	Ⓗ
18 for every $4\frac{1}{2}$	Ⓘ	Ⓙ	Ⓚ	Ⓛ
$\frac{\frac{2}{5}}{12}$	Ⓜ	Ⓝ	Ⓞ	Ⓟ

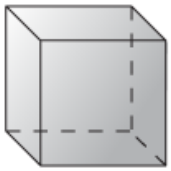
Answer	D, F, I, O
Standard	MAFS.7.RP.1.1
6.	A recipe calls for $\frac{2}{3}$ cup of flour to make a batch of 12 carrot muffins. How many muffins can be made with 1 cup of flour? Ⓐ 6 Ⓑ 24 Ⓒ 8 Ⓓ 18
Answer	D

Standard	MAFS.7.RP.1.3
7.	Greg lives in a state with 8% sales tax and he has $20 in his pocket. Select all of the prices of items that Greg is able to buy. Ⓐ $19.00 Ⓑ $18.55 Ⓒ $15.00 Ⓓ $17.99 Ⓔ $18.50
Answer	C, D, E
Standard	MAFS.7.RP.1.3
8.	Summer Sunshine camp had 628 campers in year 1. In year 2, they had 18% more campers than in year 1. In year 3, they had 20% more campers than in year 2. How many campers did Summer Sunshine have in year 3? Round to the nearest whole number. _____ campers
Answer	889

Standard	MAFS.7.G.1.1
9.	A rectangle has a length of 4 feet and a width of 5 feet. Select all of the possible scale drawings of this rectangle. Ⓐ  Ⓑ  Ⓒ  Ⓓ  Ⓔ 
Answer	A, D, E
Standard	**MAFS.7.G.1.1**
10.	A scale drawing of a rectangular pool has dimensions 4 inches $\times$ 8 inches, and its scale is 2 inches : 11 feet. What is the area, in square feet, of the pool? _____ ft^2
Answer	968

Standard	MAFS.7.G.2.4
11.	A circular plate has a circumference of 34.5 inches. What is its area in square inches? Use 3.14 for π and round your answer to the nearest square inch. _____ $in.^2$
Answer	95
Standard	**MAFS.7.G.2.4**
12.	The wheel on a bus completes 40 revolutions and travels 613 feet. Rounded to the nearest hundredth, what is the radius of the wheel? Use 3.14 for π . _____ ft
Answer	2.44

Standard	**MAFS.7.G.2.5**
13.	In the figure, what is $m\angle ABF$?  Ⓐ 63 Ⓑ 207 Ⓒ 153 Ⓓ 117
Answer	C
Standard	**MAFS.7.G.2.5**
14.	What is the value of x in the figure shown?  x = _____
Answer	14

Standard	MAFS.7.G.2.6
15.	A cube with a surface area of 54 square centimeters is shown.  Four cubes like the one shown are combined to create a larger cube. What is the total volume, in cubic centimeters, of the cubes? Ⓐ $108\ cm^3$ Ⓑ $72\ cm^3$ Ⓒ $54\ cm^3$ Ⓓ $144\ cm^3$
Answer	A
Standard	**MAFS.7.G.2.6**
16.	A hexagonal prism has a base with an area of 15 square inches. If the volume is 105 cubic inches, what is the height of the prism? Ⓐ $7\ in.^2$ Ⓑ $1{,}575\ in.^2$ Ⓒ 1,575 in. Ⓓ 7 in.
Answer	D