## 7th Grade FSA Test Prep

Megan and Jake both live on the same street that the library is on. Megan lives 3.5 blocks north of the library, and Jake lives 4.5 blocks south of the library. How many blocks apart do Megan and Jake live?

A circle has a diameter of 12 cm . What is the area of the circle in square centimeters? Assume $\pi=3.14$.

A rectangle with its dimensions, in inches (in), is shown.


Which of the options below correctly represents the ratio between length and width?
A. 3:8
B. $8: 3$
C. $6: 8$
D. $8: 6$

What is the sum of the tw, expressions?

$$
\left(\frac{2}{7} x+5\right)+\left(\frac{4}{7} x-3\right)
$$

The perimeter of a rectangular garden is 28.4 feet ( ft ). The width is $x$, and the length is 8 fl . What is the width, in feet, of the garden?

> A bucket contains 6 green rubber balls, 4 red rubber balls, and 8 purple rubber balls. Alex removes 3 rubber balls, without replacement, from the bucket.

## What is the probability that Alex removes a green ball, red ball, and purple ball in that order?



| Find the difference of the two expressions. $\left(\frac{4}{5} x-2\right)-\left(\frac{1}{5} x+7\right)$ | Daniel and Dianna each cut a cylinder in half. The cross-section that results from Daniel's cut is a circle. The cross-section that results from Dianna's cut is a rectangle. If each cylinder was positioned like the one to the right, which of the following must be true? |  |
| :---: | :---: | :---: |
| Gerardo makes $\$ 18$ per hour at Starbucks. Tomorrow he is going to receive a raise totalling $20 \%$ of his hourly wage. What will he be making per hour starting tomorrow? | A. Daniel cut from top from side to side. <br> B. Daniel cut from side top to bottom. <br> C. Daniel and Dianna <br> D. Daniel and Dianna | ottom, and Dianna cut side, and Dianna cut from <br> cut from top to bottom. cut from side to side. |
| Nathan is drawing a triangle. He knows that two of the side lengths are going to be 5 inches and 7 inches. Which of the following can be the third side length? <br> A. 13 inches <br> B. 1 inch <br> C. 8 inches <br> D. 15 inches | Mary drew a picture of a building. She used the scale shown. <br> 1 inch : 16 feet <br> The building in her picture is 9 inches tall. What is the height, in feet, of the actual building? | A recipe calls for $5 / 8$ cup of sugar for every 5 teaspoons of vanilla. What is the unit rate in cups per teaspoon? |

Circle the quadrilateral below that has exactly two lines of symmetry.


| What is the sum of the two expressions? $\left(\frac{4}{5} x+13\right)-\left(\frac{5}{8} x-6\right)$ | The dimensions of a rectangular pool are 28.4 feet by 18 feet. The depth is 5 feet. Each cubic foot contains approximately 7.5 gallons of water. <br> How many gallons of water will it take to fill the pool 60\% full? |  |
| :---: | :---: | :---: |
| James finds rollerblades on sale at three different stores. Which store is offering the best price after the discount? <br> $\square$ Store A: $\$ 110,20 \%$ off <br> $\square$ Store B: \$95, 11\% off <br> $\square$ Store C: $\$ 102,18 \%$ off |  |  |
| Al is buying a bicycle. The tax on the bicycle ( $b$ ) is represented by 0.07 b. Write an expression in terms of $b$ to represent the total amount that AI spends on the bicycle, including tax. | Which expression represents that $x$ was tripled and then decreased by $5 \%$ ? <br> A. $3 x-0.5 x$ <br> B. $0.05 x-3 x$ <br> C. $3 x-0.05 x$ <br> D. $3-(x-0.05 x)$ | Combine like terms: $(3 x+7)-(-2 x+13)-3$ |

## A middle school has

- 180 students in grade 6;
- 215 students in grade 7; and
- 200 students in grade 8.

The media specialist wants to know which books are the most popular among the students in her school. Since she cannot ask all the students, she will survey a group of them. Which sample can best help the media specialist draw conclusions about the preferences of all the students in the school?
A. 27 sixth graders, 27 seventh graders, 30 eighth graders
B. 32 sixth graders, 36 seventh graders, 40 eighth graders
C. 36 sixth graders, 43 seventh graders, 40 eighth graders
D. 32 sixth graders, 36 seventh graders, 30 eighth graders


| An equation is shown, where $\mathrm{z}<0$. $x \cdot y=z$ | The change in the price of a loaf of raisin bread is shown in the table. |  |
| :---: | :---: | :---: |
| If $y<0$, which of the following | Year | Change |
| must be true? | 2015 | -\$0.21 |
| a. $x=0$ | 2016 | +\$0.36 |
| c. $x>0$ | 2017 | -\$0.08 |
| What is the formula for circumference of a circle? | In 2014 the price of What was the price the end of 2017? | isin bread was \$1.59. the raisin bread at |
| Select the true statement. <br> A. $5 \cdot(-5)=25$ <br> B. $(-5) \cdot(-5)=25$ <br> C. $5 \cdot(5)=-25$ <br> D. $(-5) \cdot(-5)=-25$ | An expression is shown. $-4 \frac{1}{2}+6 \frac{3}{4}$ <br> What is the value of the expression? | Find the difference of the two expressions. $\left(\frac{2}{3} x-8\right)-\left(\frac{1}{4} x-4\right)$ |

Antonio has a bucket filled with red, purple, pink, and blue markers. He removes 5 markers from the bucket randomly.

Based on the information provided, which of the following are not possible outcomes.
$\square$ All markers removed are the same color.
$\square$ An equal number of red and purple markers were removed.
$\square$ No pink or blue markers were removed.
$\square$ All five markers removed are different colors.
$\square$ Three of the markers removed were purple, one was blue, and one was green.

| How many degrees is $\angle \mathrm{A}$ if lines $/$ and $m$ are parallel? | A set of gel pens costs $\$ 0.90$ to make. At the school fundraiser, it sells for $\$ 2.80$. Forty percent of the profit (the difference between the purchase price and the amount it costs to make) from each set of gel pens goes to the school. If 400 sets are sold, what is the amount of money that will go to the school? |  |
| :---: | :---: | :---: |
| Steven rolls a 6-sided number cube 3 times. What is the probability of rolling a multiple of 3 on all three rolls? |  |  |
| Pauline uses $2 / 5$ of a cup of sugar in each batch of cookies. Yesterday, Pauline used 1 cup of sugar. How many batches of cookies did Pauline make yesterday? | A number line is shown. <br> Draw Point B on the number line to represent -8. How far is Point A from Point B? | An expression is shown. $30.25-(-5.7)-2.08$ <br> What is the value of the expression? |

For the data set shown, find the mean, median, mode, range, and interquartile range.

mean (to the nearest tenth)= median = mode = range = interquartile range =

| An expression is shown. <br> $4+7+(-8)+1$ |
| :--- | :--- | :--- |
| What is the value of the |
| expression? |$\quad$| What is the measure, in degrees, of the |
| :--- |
| highlighted middle angle? |

Circle the quadrilateral below that has exactly four lines of symmetry.


| Nichole ordered lunch at a restaurant. Her meal totalled $\$ 14.30$. If sales tax is $7 \%$, and she leaves a tip of $20 \%$ after sales tax is added on, what is the total she paid for lunch? | A bucket holds 480 ounces (oz) of water when full. Unfortunately, the bucket has a small hole in it, and is losing 4.8 oz of water per minute. In how many minutes will the bucket be 80\% full? |  |
| :---: | :---: | :---: |
| It takes Erin 16 hours to drive 1200 miles from Gainesville to New York. What is her average speed in miles per hour? |  |  |
| Complete the missing part of the ratio: $4: 5=12:$ | In Hooper's Pet Store, $1 / 4$ of all the pets they sell are dogs. Of those, $2 / 5$ are german shepherds. What fraction of all the pets sold are german shepherds? | Aileen is buying a new purse that costs $\$ 78.75$. She has a coupon to receive $35 \%$ off. What is the amount she will pay after the discount if there is no sales tax? |

A spinner is divided into equal parts $1-5$. George spun the spinner 300 times. A table of outcomes is shown.

| Part | Times Spun |
| :---: | :---: |
| 1 | 42 |
| 2 | 66 |
| 3 | 63 |
| 4 | 72 |
| 5 | 57 |

Based on the table, what is an estimated probability of the spinner landing on an even number?

| A recipe used $\frac{4}{5}$ cup of sugar for every 2 cups of flour. How much sugar was used per cup of flour? <br> At 8:00 A.M., the temperature was 12 degrees Celsius $\left({ }^{\circ} \mathrm{C}\right)$. Two hours later, the temperature was $-7^{\circ} \mathrm{C}$. By how many degrees Celsius did the temperature change? | In the following diagram, what is the measure of $\angle S$ ? $104^{\circ}$ |  |
| :---: | :---: | :---: |
| What is the sum of the two expressions? $\left(\frac{5}{6} x-3\right)+\left(\frac{2}{3} x+14\right)$ | An expression is shown. $5 \frac{1}{6}-\left(-3 \frac{1}{8}\right)$ <br> What is the value of the expression? | What is $2 / 3$ written as a decimal? |

Use the dot plot below to answer the following questions.

travel time in minutes

1. What is the mean travel time? $\qquad$ minutes
2. What is the median travel time? $\qquad$ minutes
3. What is the interquartile range? $\qquad$ minutes

| Megan and Jake both live on the same street that the library is on. Megan lives 3.5 blocks north of the library, and Jake lives 4.5 blocks south of the library. How many blocks apart do Megan and Jake live? 8 blocks | A rectangle with its dimen shown. | ons, in inches (in), is |
| :---: | :---: | :---: |
| A circle has a diameter of 12 cm . What is the area of the circle in square centimeters? Assume $\pi=3.14$. $113.04 \mathrm{~cm}^{2}$ | Which of the options belo ratio between length and <br> A. 3:8 <br> B. $8: 3$ <br> C. $6: 8$ <br> D. $8: 6$ | orrectly represents the th? |
| A recipe calls for $3 / 4$ cup of sugar for every 3 cups of flour. How much flour should be used for every 1 cup of sugar? <br> 4 cups of flour | What is the sum of the two expressions? $\begin{gathered} \left(\frac{2}{7} x+5\right)+\left(\frac{4}{7} x-3\right) \\ \left(\frac{6}{7} x+2\right) \end{gathered}$ | The perimeter of a rectangular garden is 28.4 feet ( ft . The width is $x$, and the length is 8 ft . What is the width, in feet, of the garden? <br> 6.2 feet |

> A bucket contains 6 green rubber balls, 4 red rubber balls, and 8 purple rubber balls. Alex removes 3 rubber balls, without replacement, from the bucket.

What is the probability that Alex removes a green ball, red ball, and purple ball in that order?

$$
1 / 3 \times 4 / 17 \times 1 / 2=4 / 102 \text { or } 2 / 51
$$

| An expression is shown. $12.3-(-21.45)$ <br> What is the value of the expression? $33.75$ <br> What is $5 / 8$ written as a decimal? $0.625$ | Armando bought a meal in a town that has no sales tax. He tips 20\%. Select all meals Armando could buy for $\$ 20$ or less.\$15.25\$17.15\$16.65\$16.50\$17.00\$16.80 |  |
| :---: | :---: | :---: |
| A shipping company selects 75 random packages to check their weight. It finds that 3 packages were weighed incorrectly. How many packages out of 3000 should the company predict have an incorrect weight? 120 | A cube has a surface area of $54 \mathrm{~cm}^{2}$. What is the volume of the cube? $27 \mathrm{~cm}^{3}$ | Nate and 2 friends share a pizza equally. If Nate eats half of his share of the pizza, what fraction of the total pizza did he eat? <br> 1/6 pizza |

Match the formula with what is measures:


Find the difference of the two expressions.

$$
\left(\frac{4}{5} x-2\right)-\left(\frac{1}{5} x+7\right)
$$

$$
\left(\frac{3}{5} x-9\right)
$$

Gerardo makes $\$ 18$ per hour at Starbucks. Tomorrow he is going to receive a raise totalling $20 \%$ of his hourly wage. What will he be making per hour starting tomorrow?
\$21.60/hr

Daniel and Dianna each cut a cylinder in half. The cross-section that results from Daniel's cut is a circle. The cross-section that results from Dianna's cut is a rectangle. If each cylinder was
 positioned like the one to the right, which of the following must be true?
A. Daniel cut from top to bottom, and Dianna cut from side to side.
B. Daniel cut from side to side, and Dianna cut from top to bottom.
C. Daniel and Dianna both cut from top to bottom.
D. Daniel and Dianna both cut from side to side.

Nathan is drawing a triangle. He knows that two of the side lengths are going to be 5 inches and 7 inches. Which of the following can be the third side length?
A. 13 inches
B. 1 inch
C. 8 inches
D. 15 inches

Mary drew a picture of a building. She used the scale shown.

1 inch : 16 feet The building in her picture is 9 inches tall. What is the height, in feet, of the actual building? 144 feet

A recipe calls for $5 / 8$ cup of sugar for every 5 teaspoons of vanilla. What is the unit rate in cups per teaspoon? $1 / 8$ cup of sugar per tsp of vanilla

Circle the quadrilateral below that has exactly two lines of symmetry.


| What is the sum of the two expressions? $\begin{gathered} \left(\frac{4}{5} x+13\right)-\left(\frac{5}{8} x-6\right) \\ \left(\frac{7}{40} x+19\right) \end{gathered}$ | The dimensions of a rectangular pool are 28.4 feet by 18 feet. The depth is 5 feet. Each cubic foot contains approximately 7.5 gallons of water. <br> How many gallons of water will it take to fill the pool 60\% full? |  |
| :---: | :---: | :---: |
| James finds rollerblades on sale at three different stores. Which store is offering the best price after the discount? <br> $\square$ Store A: \$110, 20\% off <br> $\square$ Store B: $\$ 95,11 \%$ off <br> ® Store C: $\$ 102,18 \%$ off | 11,502 |  |
| Al is buying a bicycle. The tax on the bicycle ( $b$ ) is represented by 0.07 b . Write an expression in terms of $b$ to represent the total amount that AI spends on the bicycle, including tax. b + 0.07b | Which expression represents that $x$ was tripled and then decreased by $5 \%$ ? <br> A. $3 x-0.5 x$ <br> B. $0.05 x-3 x$ <br> C. $3 x-0.05 x$ <br> D. $3-(x-0.05 x)$ | Combine like terms: $\begin{gathered} (3 x+7)-(-2 x+13)-3 \\ 5 x-9 \end{gathered}$ |

## A middle school has

- 180 students in grade 6;
- 215 students in grade 7; and
- 200 students in grade 8.

The media specialist wants to know which books are the most popular among the students in her school. Since she cannot ask all the students, she will survey a group of them. Which sample can best help the media specialist draw conclusions about the preferences of all the students in the school?
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| An equation is shown, where z < 0 . $x \cdot y=z$ | The change in the price of a loaf of raisin bread is shown in the table. |  |
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| If $y<0$, which of the following must be true? | Year | Change |
|  | 2015 | -50.21 |
| a. $x=0$ <br> b. $x<0$ | 2016 | +\$0.36 |
| c. $x>0 \times$ | 2017 | -\$0.08 |
| What is the formula for circumference of a circle? $C=2 \pi r$ | In 2014 the price of raisin bread was \$1.59 What was the price of the raisin bread at the end of 2017 ? |  |
|  | \$1.66 |  |
| Select the true statement. <br> A. $5 \cdot(-5)=25$ <br> B. $(-5) \cdot(-5)=25$ <br> C. $5 \cdot(5)=-25$ <br> D. $(-5) \cdot(-5)=-25$ | An expression is shown. $-4 \frac{1}{2}+6 \frac{3}{4}$ <br> What is the value of the expression? | Find the difference of the two expressions. $\left(\frac{2}{3} x-8\right)-\left(\frac{1}{4} x-4\right)$ |
|  | $2 \frac{1}{4}$ | $\left(\frac{5}{12} x-4\right)$ |

Antonio has a bucket filled with red, purple, pink, and blue markers. He removes 5 markers from the bucket randomly.

Based on the information provided, which of the following are not possible outcomes.
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| How many degrees is $\angle \mathrm{A}$ if lines $/$ and $m$ are parallel? <br> $67^{\circ}$ | A set of gel pens costs $\$ 0.90$ to make. At the school fundraiser, it sells for $\$ 2.80$. Forty percent of the profit (the difference between the purchase price and the amount it costs to make) from each set of gel pens goes to the school. If 400 sets are sold, what is the amount of money that will go to the school? |  |
| :---: | :---: | :---: |
| Steven rolls a 6-sided number cube 3 times. What is the probability of rolling a multiple of 3 on all three rolls? $1 / 27$ | \$304.00 |  |
| Pauline uses $2 / 5$ of a cup of sugar in each batch of cookies Yesterday, Pauline used 1 cup of sugar. How many batches of cookies did Pauline make yesterday? <br> $2^{1 / 2}$ | A number line is shown. <br> Draw Point B on the number line to represent -8. How far is Point $A$ from Point B? 16 units | An expression is shown. $30.25-(-5.7)-2.08$ <br> What is the value of the expression? <br> 33.87 |
| For the data set show interquartile range. <br> mean (to the nearest t median $=4$ <br> $\operatorname{mode}=4,5$ <br> range $=6$ <br> interquartile range $=2$ | , find the mean, me $h)=\quad 4.1$ | , mode, range, and |


| An expression is shown. <br> $4+7+(-8)+1$ |
| :--- | :--- | :--- |
| What is the value of the |
| expression? |$\quad$| What is the measure, in degrees, of the |
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Circle the quadrilateral below that has exactly four lines of symmetry.


| Nichole ordered lunch at a restaurant. Her meal totalled $\$ 14.30$. If sales tax is $7 \%$, and she leaves a tip of $20 \%$ after sales tax is added on, what is the total she paid for lunch? <br> \$18.36 | A bucket holds 480 ounces (oz) of water when full. Unfortunately, the bucket has a small hole in it, and is losing 4.8 oz of water per minute. In how many minutes will the bucket be 80\% full? |  |
| :---: | :---: | :---: |
| It takes Erin 16 hours to drive 1200 miles from Gainesville to New York. What is her average speed in miles per hour? <br> 75 miles per hour | 20 | utes |
| Complete the missing part of the ratio: $4: 5=12:$ $\qquad$ | In Hooper's Pet Store, $1 / 4$ of all the pets they sell are dogs. Of those, $2 / 5$ are german shepherds. What fraction of al the pets sold are german shepherds? <br> $2 / 20$ or $1 / 10$ | Aileen is buying a new purse that costs $\$ 78.75$. She has a coupon to receive $35 \%$ off. What is the amount she will pay after the discount if there is no sales tax? $\$ 51.19$ |

A spinner is divided into equal parts $1-5$. George spun the spinner 300 times. A table of outcomes is shown.

| Part | Times Spun |
| :---: | :---: |
| 1 | 42 |
| 2 | 66 |
| 3 | 63 |
| 4 | 72 |
| 5 | 57 |

Based on the table, what is an estimated probability of the spinner landing on an even number? $2 / 5$ or $40 \%$

| A recipe used $\frac{4}{5}$ cup of sugar for every 2 cups of flour. How much sugar was used per cup of flour? 2/5 cup <br> At 8:00 A.M., the temperature was 12 degrees Celsius $\left({ }^{\circ} \mathrm{C}\right)$. Two hours later, the temperature was $-7^{\circ} \mathrm{C}$. By how many degrees Celsius did the temperature change? $19^{\circ} \mathrm{C}$ | In the following diagram, what is the measure of $\angle \mathrm{S}$ ? $104^{\circ}$ |  |
| :---: | :---: | :---: |
| What is the sum of the two expressions? $\begin{gathered} \left(\frac{5}{6} x-3\right)+\left(\frac{2}{3} x+14\right) \\ \left(1 \frac{1}{2} x+11\right) \end{gathered}$ | An expression is shown. $5 \frac{1}{6}-\left(-3 \frac{1}{8}\right)$ <br> What is the value of the expression? $8 \frac{7}{24}$ | What is $2 / 3$ written as a decimal? $0.67$ |

Use the dot plot below to answer the following questions.

travel time in minutes

1. What is the mean travel time? $\qquad$ minutes
8.5 minutes
2. What is the median travel time? $\qquad$ minutes
8.5 minutes
3. What is the interquartile range? $\qquad$ minutes 2 minutes
