

تجميعة تدريبات متنوعة وفق الهيكل الوزاري منهج ريفيل



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف السابع ← رياضيات ← الفصل الثالث ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 10:28:40 2025-06-15

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
رياضيات:

إعداد: Dhawan Karan

التواصل الاجتماعي بحسب الصف السابع



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السابع والمادة رياضيات في الفصل الثالث

عرض بوربوينت حل نماذج امتحانية متنوعة

1

أسئلة الامتحان النهائي القسم الالكتروني منهج ريفيل مع الإجابات المسار العام

2

حل مذكرة مراجعة نهائية وفق الهيكل الوزاري منهج بريدج

3

مذكرة مراجعة نهائية وفق الهيكل الوزاري منهج بريدج بدون الحل

4

نموذج أسئلة نهائية وفق الهيكل الوزاري القسم الالكتروني

5

5/22/2025

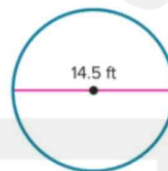
AL QARAYEN BOYS' SCHOOL -
CYCLE 2
EOT_2024-25
7TH ADVANCED MATHEMATICS

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1. Find the circumference of the watch face. Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 1)



2. A circular fence is being used to surround a dog house. How much fencing is needed to build the fence? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 1)



3. Find the circumference of a circle with a radius of $31\frac{1}{2}$ yards. Use 3.14 for π . Write your answer as a decimal rounded to the nearest hundredth. (Example 2)

4. Find the circumference of a circle with a radius of 4.4 inches. Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 2)

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1	Circumference of Circles	1 – 8	455
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5. The world's largest flower, the Rafflesia, has a circumference of 286 centimeters. Find the approximate diameter of the flower. Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 3)

7. Find the approximate radius of a circle with a circumference of 34.48 inches. Use 3.14 for π . Round to the nearest hundredth. (Example 4)

6. A helicopter pad has a circumference of $47\frac{1}{2}$ yards. Find the approximate diameter of the helicopter pad. Use 3.14 for π . Write your answer as a decimal rounded to the nearest hundredth if necessary. (Example 3)

8. **Equation Editor** Find the approximate radius of a circle with a circumference of 198 centimeters. Use 3.14 for π . Round to the nearest hundredth.



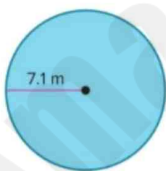
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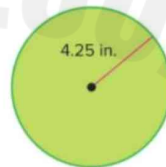


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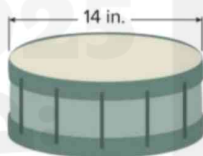
1. Find the area of the circle. Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 1)



2. Find the area of the circle. Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 1)



3. What is the area of the drumhead on the drum? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 2)



4. What is the area of one side of the penny? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 2)



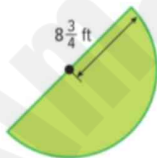
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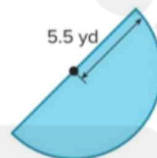
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5. Mr. Ling is adding a pond in the shape of a semicircle in his backyard. What is the area of the pond? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 3)



6. Vidur needs to buy mulch for his garden. What is the area of his garden? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 3)



7. The exact circumference of a circle is 18π inches. What is the approximate area of the circle? Use 3.14 for π . Round to the nearest hundredth if necessary. (Example 4)

8. **Open Response** The exact circumference of a circle is 34π meters. What is the approximate area of the circle? Use 3.14 for π . Round to the nearest hundredth if necessary.

Test Practice

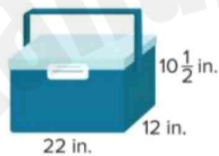
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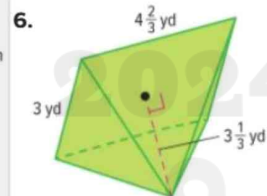
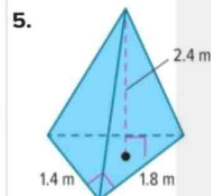
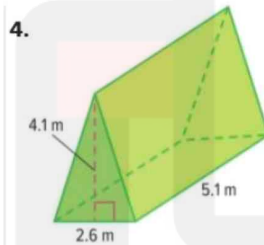
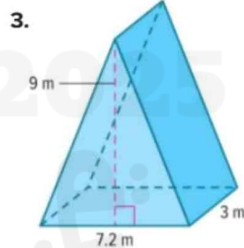
1. A cooler is in the shape of a rectangular prism. What is the volume of the cooler? Round to the nearest tenth if necessary. (Example 1)



2. A cereal box is in the shape of a rectangular prism. What is the volume of the cereal box? Express your answer as a decimal rounded to the nearest tenth if necessary. (Example 1)



Find the volume of each figure. Round to the nearest tenth if necessary. (Examples 2 and 3)



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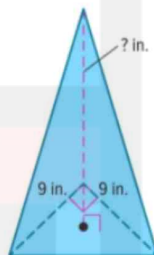


7. A triangular prism has a height of 5.9 meters and volume of 86.376 cubic meters. What is the area of the base of the prism? (Example 4)

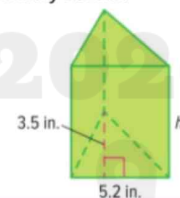
8. A rectangular pyramid has a height of 9.5 centimeters and a volume of 494 cubic centimeters. What is the area of the base of the pyramid? (Example 5)

Test Practice

9. A glass stand to display a doll is in the shape of a right triangular pyramid as shown. The volume of the stand is 202.5 cubic inches. What is the height of the stand? (Example 5)



10. **Open Response** A triangular box of sticky notes is shown. The volume of the box of sticky notes is 54.6 cubic inches. What is the height of the box of sticky notes?



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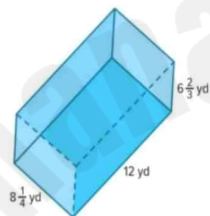
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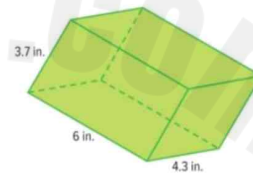
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Find the surface area of each prism. Round to the nearest tenth if necessary. (Example 1)

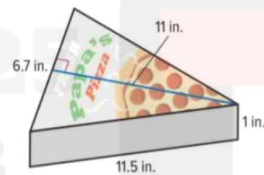
1.



2.

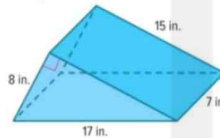


3. How much cardboard is needed to make the single slice of pizza box shown? (Example 2)



Test Practice

4. **Open Response** What is the surface area of the triangular prism-shaped toy car ramp shown?



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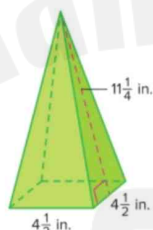


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6	Surface Area	Example – 3	491
		5 – 6	495

Example 3 Surface Area of Pyramids

Find the surface area of the pyramid.



Step 1 Find the area of the base.

The base of the pyramid is a square with $4\frac{1}{2}$ -inch sides. Use the formula $A = s^2$ to find the area of the base.

$$A = s^2$$

Area of a square

$$= 4\frac{1}{2} \cdot 4\frac{1}{2}$$

Each side is $4\frac{1}{2}$ in.

$$= \frac{9}{2} \cdot \frac{9}{2}$$

Multiply.

$$= \frac{81}{4} \text{ or } 20\frac{1}{4}$$

Simplify.

The area of the base is $4\frac{1}{2} \cdot 4\frac{1}{2}$ or square inches.

Step 2 Find the area of the lateral faces.

The lateral faces are four congruent triangles with a base length of $4\frac{1}{2}$ inches and a height of $11\frac{1}{4}$ inches. Use the formula $A = 4\left(\frac{1}{2}bh\right)$ to find the total area of the lateral faces.

$$A = 4\left(\frac{1}{2}bh\right)$$

There are 4 lateral faces with an area of $\frac{1}{2}bh$.

$$= 4\left(\frac{1}{2} \cdot 4\frac{1}{2} \cdot 11\frac{1}{4}\right)$$

Replace b with $4\frac{1}{2}$ and h with $11\frac{1}{4}$.

$$= \frac{4}{1} \cdot \frac{1}{2} \cdot \frac{9}{2} \cdot \frac{45}{4}$$

Multiply.

$$= \frac{405}{4} \text{ or } 101\frac{1}{4}$$

Simplify.

The area of the lateral faces is $4\left(\frac{1}{2} \cdot 4\frac{1}{2} \cdot 11\frac{1}{4}\right)$ or square inches.

Step 3 Find the total surface area.

The area of the base is $20\frac{1}{4}$ square inches. The area of the lateral faces is $101\frac{1}{4}$ square inches.

So, the total surface area of the pyramid is $20\frac{1}{4} + 101\frac{1}{4}$, or $121\frac{1}{2}$ square inches.



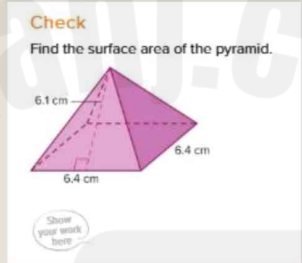
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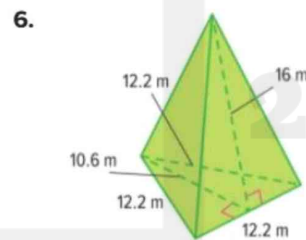
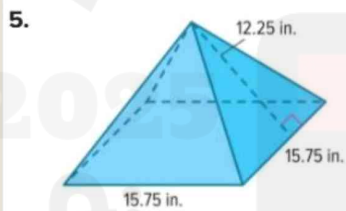


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6	Surface Area	Example – 3	491
		5 – 6	495



Find the surface area of each pyramid. Round to the nearest tenth if necessary. (Example 3)



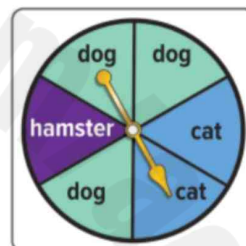
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7	Find Likelihoods	1 – 8	513
		9 – 10	514

The spinner shown is spun once. Classify the likelihood of each event as *impossible*, *unlikely*, *equally likely*, *likely*, or *certain*. (Example 1)

1. the spinner landing on *dog*
2. the spinner landing on *hamster*
3. the spinner landing on *dog* or *cat*
4. the spinner landing on *bird*
5. the spinner landing on an animal
6. the spinner landing on *cat* or *hamster*



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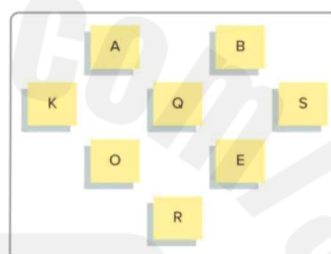


7	Find Likelihoods	1 – 8	513
		9 – 10	514

For Exercises 7 and 8, a card is randomly selected from the ones shown.

7. **Multiselect** Select all events that are unlikely to happen.

- ☐ selecting the letter B
- ☐ selecting the letter T
- ☐ selecting a vowel or S
- ☐ selecting a consonant or vowel
- ☐ selecting a consonant or A
- ☐ selecting the letter Q or R



8. **Multiselect** Select all of the following events that are equally likely to happen as not to happen.

- ☐ selecting the letter B
- ☐ selecting the letter E
- ☐ selecting a vowel or S
- ☐ selecting a consonant or vowel
- ☐ selecting a consonant or A
- ☐ selecting the letter Q, R, B, or K

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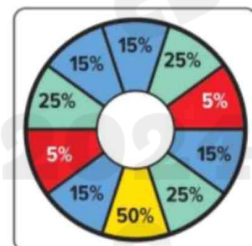
7	Find Likelihoods	1 – 8	513
		9 – 10	514

Apply

9. The spinner shows the prizes a person can win at a festival. The spinner shown is spun once. Order the prizes a person can win based on the likelihood of spinning that prize from least likely to most likely.



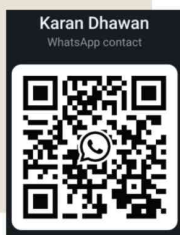
10. The spinner shows the amount of discount a shopper will receive on one item when they check out. Order the amount of the discounts based on the likelihood of spinning that discount from least likely to most likely.



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1. A spinner with four equal sections of blue, green, yellow, and red is spun 100 times. It lands on blue 14 times, green 10 times, yellow 8 times, and red 68 times. What is the relative frequency of landing on red? (Example 1)

2. The frequency table shows the results of a survey about favorite exhibits. (Example 2)

Exhibit	Frequency
Butterfly	12
Dinosaurs	25
Planets	17
Trains	6

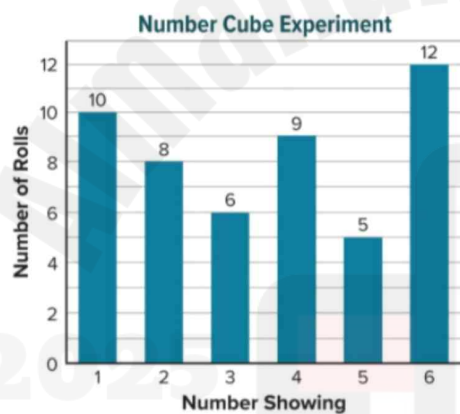
Find the relative frequency that a randomly selected student's favorite exhibit was either butterflies or trains, as a percent.



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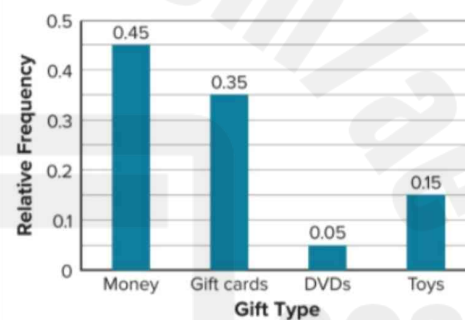


3. The graph shows the results of an experiment in which a number cube labeled 1 through 6 is rolled a number of times.



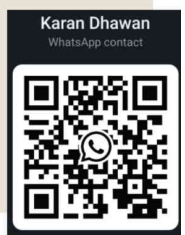
Find the relative frequency of rolling a number greater than 3. (Example 3)

4. A random selection of students was asked the question “What type of gift did you last receive?” and the results were recorded in the relative frequency bar graph.



What is the experimental probability that a student chosen at random received a gift card or money? (Example 4)

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1. The spinner shown is spun once. What is the sample space? (Example 1)



2. Each letter in the word MISSISSIPPI is written on a piece of paper and placed into a bag. A letter is drawn at random. What is the sample space? (Example 1)

3. A teacher placed the letter cards E, L, O, R, U, and W in a bag. A card is drawn at random. Determine the theoretical probability for drawing a card that has a vowel on it. (Example 2)

4. A player in a board game rolls a six-sided number cube labeled 1 through 6 once. Determine the theoretical probability of rolling a 1 or 2. (Example 2)



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5. The table shows the lengths of time for rides at a fair. Zane will choose a ride at random and wants to find the probability of choosing a ride that lasts less than 200 seconds. What is the probability of the complement of the event? Describe the complement. (Example 3)

Ride	Time (seconds)
Barrel	150
Bumper Cars	195
Circus Carousel	210
Log Ride	120
Roller Coaster	55
Swings	225
Train	300
Zero Gravity Spinner	65

6. Red is spun on a spinner with five equal-size sections labeled red, yellow, blue, green, and purple. What is the probability of the complement of the event? Describe the complement. (Example 3)

Test Practice

7. **Multiselect** A sportscaster predicted that the local high school baseball team has a 75% chance of winning tonight. Select all of the values that represent the probability of the team *not* winning.

- ☐ 0.75 ☐ 25%
☐ 0.25 ☐ $\frac{3}{4}$
☐ 75% ☐ $\frac{1}{4}$

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1. An Italian ice shop sells Italian ice in four flavors: lime, cherry, blueberry, and watermelon. The ice can be served plain, mixed with ice cream, or as a drink. Using an organized list or table, what is the sample space of possible outcomes? (Example 1)

2. A deli offers a lunch consisting of a soup, salad, and sandwich from the menu shown in the table. A customer randomly chooses lunch consisting of a soup, salad, and sandwich. Construct and use a tree diagram to determine the sample space of the event. How many possible outcomes are in the sample space? (Example 2)

Soup	Salad	Sandwich
Tortellini	Caesar	Roast Beef
Lentil	Macaroni	Ham
		Turkey

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3. The spinner shown has six equal-size sections and is spun twice. What is the probability that the product of the numbers spun is 12? (Example 3)



4. A number from 0 to 9 is randomly selected and then a letter from A to D is randomly selected. What is the probability that the number 3 and a consonant are selected? (Example 4)

Test Practice

5. **Open Response** Lorelei tosses a coin 4 times. What is the probability of tossing four heads? Express as a percent. Round to the nearest tenth, if necessary.

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11	Simulate Chance Events	1 – 2	567
		10	572

1. Suppose the chance of rain on Saturday is $\frac{2}{5}$ and the chance of rain on Sunday is also $\frac{2}{5}$. A student wants to run a simulation to estimate the probability that it will rain on both days. (Example 1)

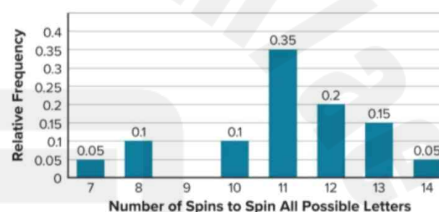
Part A How can the student model the chance of it raining on each day? Design a simulation.

Part B Suppose the table shows the results of 10 trials of a simulation. An "R" represents a day that it rained and an "N" represents a day that it did not rain.

Trial	1	2	3	4	5	6	7	8	9	10
Saturday	N	R	R	N	N	R	R	N	R	N
Sunday	N	N	R	R	N	R	N	R	R	N

According to the results of the simulation, what is the experimental probability of having rain on both days?

2. **Open Response** Leigh designs and conducts a computer simulation with 30 trials and uses the data from the simulation to create the relative frequency bar graph shown. The graph shows the relative frequency of the number of spins needed for a spinner divided into 6 equal sections labeled A through F to land on each letter at least once. (Example 2)



Using the graph, what is the experimental probability that more than 10 spins are needed to land on each letter at least once? Write the probability as a percent.



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11	Simulate Chance Events	1 – 2	567
		10	572

10. Open Response A weather forecast calls for a 60% chance of rain today and a 60% chance of rain tomorrow. The table shows the results of 10 simulated trials, where “R” represents rain and “N” represents no rain.

(Lesson 6)

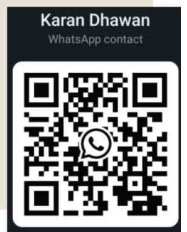
Trial	1	2	3	4	5	6	7	8	9	10
Today	N	R	R	N	R	R	N	R	R	R
Tomorrow	N	R	R	N	R	R	R	N	N	R

According to the results of the simulation, what is the experimental probability of having rain on both days?

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12	Biased and Unbiased Samples	Learn	578
		1 – 5	583

Learn Biased Samples

An **unbiased sample** is obtained using a valid sampling method that is random and is representative of the population.

When a sample is *not* representative of the population, it is a **biased sample**. A biased sample usually favors one or more parts of the population over another.

The table shows two types of biased samples: **convenience sample** and **voluntary response sample** and the reasons why each is biased.

	Convenience Sample	Voluntary Response Sample
Definition	This sample includes members of the population that are easily accessed.	This sample involves only those who want to, or can, participate in the sampling.
Example	You give a survey to the students that eat lunch with you to find out information about middle school students.	A school principal sends out a survey on a social networking site asking middle school students to vote for their favorite restaurant.
Why is it biased?	The sample is not randomly chosen and not representative of the population as a whole.	The sample involves only those who choose to participate. The responses will likely favor opinions that come only from people who feel very strongly about that topic.

Suppose you want to determine the favorite pizza shop of middle school students in your city. Select all of the samples that are biased.

- (A) All of the middle school students that rode bicycles to school are surveyed.
- (B) A social media poll is sent to all middle school students. A winner is chosen from the participants.
- (C) Every ninth student that walks through the cafeteria door is surveyed.
- (D) Every person in the culinary section of the book store on a Monday evening is surveyed.



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12	Biased and Unbiased Samples	Learn	578
		1 – 5	583

1. For each sampling description, identify the valid sampling method that best describes it. Choose from *simple random sample*, *stratified random sample*, or *systematic random sample*. (Example 1)
 - a. To determine if a candidate for state senator is popular with voters, 25% of voters in 160 counties are surveyed.
 - b. To determine whether students think a new school library is needed, a computer generates a list of 100 random students and they are surveyed.
 - c. To determine the freshness of doughnuts, a baker selects a doughnut every 30 minutes and checks it.
2. Identify the type of biased sample for each situation. Choose from *convenience sample* or *voluntary response sample*. (Example 2)
 - a. A physical education teacher posts an online survey about whether students would be interested in a 5K race. The responses received determine whether there will be a 5K race.
 - b. To determine the theme of the school dance, the student council president surveys his homeroom class.

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12	Biased and Unbiased Samples	Learn	578
		1 – 5	583

Identify the sample method used and whether it is biased or unbiased. Then determine whether the inference is valid. (Examples 3 and 4)

3. To evaluate customer satisfaction, a grocery store manager gives double coupons to anyone who completes a survey as they enter the store. The store manager determines that customers are very satisfied with their shopping experience in his store.
4. A member of the cafeteria staff asks every fifth student leaving the cafeteria to rank 5 entrees from most favorite to least favorite. She finds that pizza is one of the favorite entrees.

Test Practice

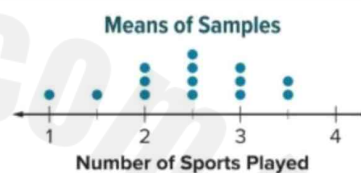
5. **Multiselect** To evaluate the defect rate of its lenses, a camera lens manufacturer tests every 100th lens off the production line. Out of 1,000 lenses tested, one lens is found to be defective. The manufacturer concludes that 3 lenses out of 3,000 will be defective. Select all of the statements that are true about the sampling method.

- ☐ This scenario is a systematic random sample.
- ☐ The sampling method is biased.
- ☐ The inference is valid.
- ☐ This scenario is a convenience sample.
- ☐ The sampling method is unbiased.

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1. The dot plot displays data from 14 random samples, each consisting of 30 middle school students. Each dot represents the mean number of sports played per year by students in the sample. (Example 1)



- a. Which number best represents the mean number of sports played by middle school students?

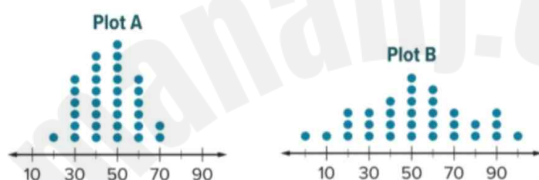
- b. Find and interpret the variability in the distribution.



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2. Open Response Below are two dot plots containing sample means from the same population.



A. How many samples are represented in each plot? How do you know?

B. Which dot plot has higher variability? Defend your answer.

C. One plot contains samples of size 25, and the other plot contains samples of size 60. Which dot plot contains the samples of size 60? How do you know?

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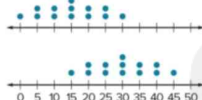
Learn Compare Two Populations

A **double box plot** consists of two box plots graphed on the same number line. A **double dot plot** consists of two dot plots that are constructed so that the values on each number line align. You can draw inferences about two populations represented by a double box plot or a double dot plot by comparing their centers and variations.

Sample Double Box Plot



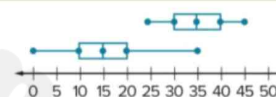
Sample Double Dot Plot



To select the appropriate measures of center and variability to compare populations in double box plots or double dot plots, check for symmetry in each data set.

Symmetry	Measure of Center	Measure of Variation
both sets of data are symmetric	mean or median	mean absolute deviation or interquartile range
neither set of data is symmetric	median	interquartile range
only one set of data is symmetric	median	interquartile range

Use the measures of center and variation to compare the two populations. Refer to the double box plot shown.



What is the median of the top box plot? _____

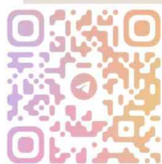
What is the median of the bottom box plot? _____

How do the centers compare? The median of the top box plot is more than twice the median of the bottom box plot.

What is interquartile range of the top box plot? _____

What is interquartile range of the bottom box plot? _____

How do the data in the populations vary around the median? Because the IQRs are the same, the data are similarly clustered around each median, although the medians are different.



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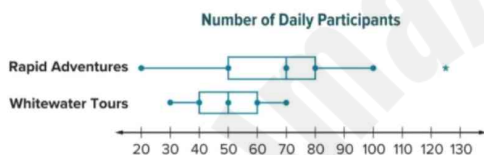
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14	Compare Two Populations	Learn	602
		Example – 2	608

Example 2 Compare Two Populations

The double box plot shows the number of daily participants for two adventure companies.



Use the measures of center and variation of this sample to make an inference about the daily participants for each adventure company.

Step 1 Compare the measures of center and variation.

The distribution for one company, Rapid Adventures, is asymmetric and contains an outlier, indicated by the asterisk (*). So, the median and interquartile range are the most appropriate measures.

Find each median.

Rapid Adventures

The median is 70 daily participants.

Find each interquartile range (IQR).

Rapid Adventures

$$\begin{aligned} \text{IQR} &= 80 - 50 \\ &= 30 \end{aligned}$$

$$\begin{aligned} \text{IQR} &= Q_3 - Q_1 \\ &= 80 - 50 \\ &= 30 \end{aligned}$$

The median number of daily participants is greater for Rapid Adventures than Whitewater Tours. There is greater variability among the data for Rapid Adventures than for Whitewater Tours. The data are more closely clustered around the center for Whitewater Tours.

Whitewater Tours

The median is 50 daily participants.

Whitewater Tours

$$\begin{aligned} \text{IQR} &= 60 - 40 \\ &= 20 \end{aligned}$$

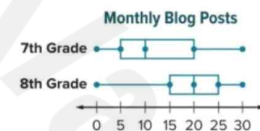
Step 2 Make an inference about the population of daily participants for the two adventure companies.

Based on these samples, you can infer that, on any randomly selected day, it is likely that Rapid Adventures will have a greater number of daily participants. However, the number of daily participants for Whitewater Tours is more likely to be consistent.

This inference is based on these samples alone. Different samples may lead to different inferences about the populations.

Check

The students of a middle school start a blog for their English class and contribute to it all year long. The double box plot shows the results for how often 7th- and 8th- grade students contribute to the blog.



Use the measures of center and variability of these samples to select all of the statements that can be inferred about the data.

- ☐ The students in the 8th grade posted blogs more often than students in 7th grade.
- ☐ The students in the 7th grade posted blogs more often than students in 8th grade.
- ☐ The amount of variability for 7th graders is greater than that for 8th graders.
- ☐ Every student in 8th grade posted more blogs than every student in 7th grade.
- ☐ 25% of 8th graders posted at least 25 blogs throughout the year.

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1. A school librarian is purchasing new books for her book clubs in the coming year. In order to determine how many books she needs, she randomly surveys 25 students who plan to participate in one of her book clubs in the coming year. The table shows the results. Predict how many science fiction books she will need to purchase if 125 students participate in book club next year. (Example 1)

Book Club Type	Number of Students
Autobiography	2
Graphic Novel	7
Mystery	10
Science Fiction	6

2. A smart tablet manufacturer tests 1 out of every 25 screens for flaws. Out of 125 tablets tested, 2 had defective screens. How many defective screens should the manufacturer expect out of 45,000 smart tablets? (Example 1)

3. The superintendent of a school district wants to predict next year's middle school lunch count. The graph shows the results of a survey of randomly selected middle school students. If the district has 5,000 middle school students next year, about how many students plan to buy lunch 1-2 days a week? (Example 2)

How Many Days Will You Buy Lunch?



4. The guidance department conducted a random survey of the student body and found that 16% of the students plan to volunteer at the school festival. Predict how many volunteer positions they should plan for a population of 950 students. (Example 2)

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15	Make Predictions	1 – 6	591
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5. The owner of a travel agency randomly surveyed its customers. The survey showed that 55% of the agency's customers were planning an overseas vacation the following year. Predict how many of the travel agency's 12,400 travelers will vacation overseas the following year. (Example 2)

Test Practice

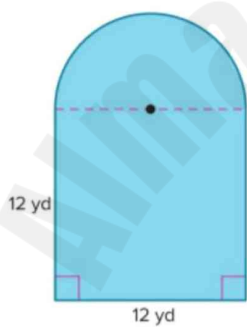
6. **Open Response** Every 30 minutes, a box of crayons is pulled from the assembly line to check the quality. Of 240 checked boxes of crayons, 2 did not pass inspection. How many boxes out of 12,000 should the crayon company expect to not pass inspection?

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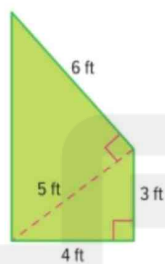


Find the area of each figure. If necessary, use 3.14 for π and round to the nearest hundredth. (Example 1)

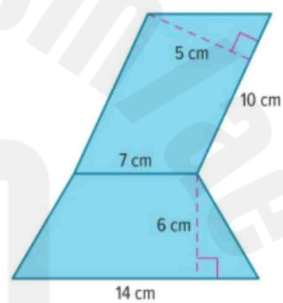
1.



2.



3.



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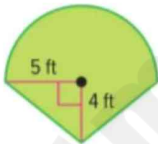
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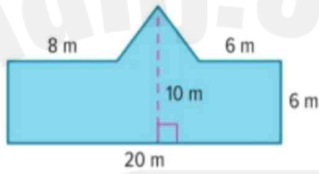
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16	Area of Composite Figures	1 – 8	473
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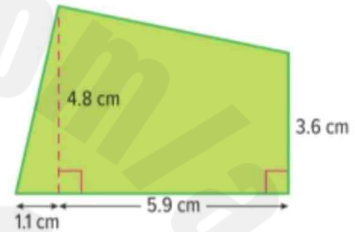
4.



5.



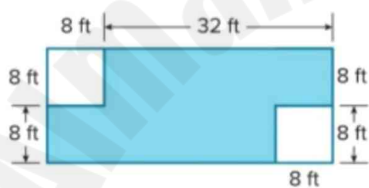
6.



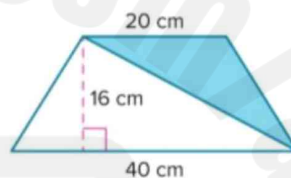
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7. Find the area of the shaded region.
(Example 2)



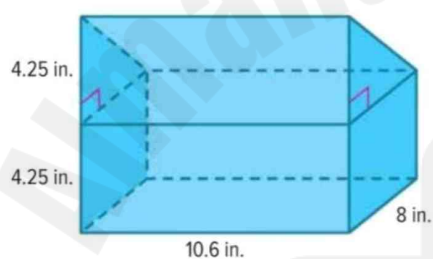
8. **Open Response** Find the area of the shaded region.



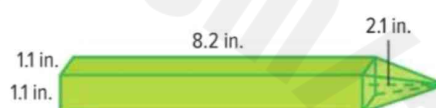
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1. Mya's lunchbox is shown. What is the volume of the lunchbox? Round to the nearest tenth if necessary. (Example 1)



2. Anson's toy rocket is shown. What is the volume of the rocket? Round to the nearest tenth if necessary. (Example 1)



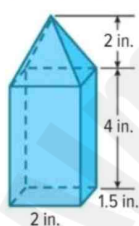
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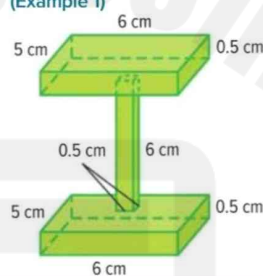
3. What is the volume of the birdfeeder?
Round to the nearest tenth if necessary.

(Example 1)



4. Zahir made this wooden perch for his pet bird. What is the volume of the bird perch?
Round to the nearest tenth if necessary.

(Example 1)



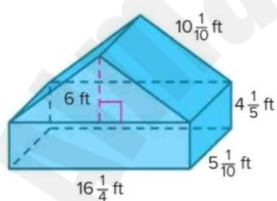
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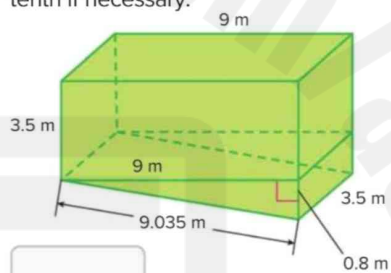


Test Practice

5. Find the surface area of the composite figure. Round to the nearest tenth if necessary. (Example 2)



6. **Open Response** Find the surface area of the composite figure. Round to the nearest tenth if necessary.



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6. A number cube labeled 1 through 6 is rolled and the spinner shown is spun once. The spinner has four equal-size sections. This experiment is repeated 60 times. The relative frequency for getting a sum of 5 was $\frac{1}{5}$. What is the difference between the number of expected outcomes and the number of actual outcomes?



7. Olivia tosses a two-sided counter and then spins a spinner with six equal-size sections labeled 1 through 6. One side of the counter is red. The other side is yellow. She performs this experiment 80 times. The relative frequency of tossing red and spinning a number greater than three was $\frac{2}{5}$. What is the difference between the number of expected outcomes and the number of actual outcomes?



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8. **MP Justify Conclusions** Natalie has a choice of a black, blue, or tan skirt to wear with a red, blue, or white sweater. Without calculating the number of possible outcomes, how many more outfits can she create if she adds a yellow sweater to her collection? Explain.

9. **MP Persevere with Problems** Kimiko and Miko are playing a game in which each person rolls a number cube. If the sum of the numbers is a prime number, then Miko wins. Otherwise, Kimiko wins. Is this game fair? Write an argument to defend your response.

10. Does the algebraic expression x^{10} represent the number of possible outcomes if the spinner shown is spun x times? Explain.



11. Describe a real-world compound event that has a sample space with four possible outcomes. Show the sample space.

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6. The table shows the number of each type of snack bag that was sold this month at lunch. The school makes \$0.75 profit on each bag sold and expects to sell 1,200 bags next month. Based on last month's results, how much profit can the school expect to make on potato chips next month?

Snack Bag	Number Sold
Cheese Curls	250
Popcorn	125
Potato Chips	340
Pretzels	85

7. A laundry detergent company's 32-ounce bottles pass inspection $\frac{98}{100}$ of the time. If the bottle does not pass inspection, the company loses the unit cost for each bottle of laundry detergent that does not pass inspection, which is \$3.45. If 800 bottles of laundry detergent are produced, about how much money can the company expect to lose?



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8. **MP Make Use of Structure** A spinner with three sections marked orange, yellow, and purple is spun 32 times. Purple is spun 24 times, orange is spun 4 times, and yellow is spun 4 times. Draw what the spinner might look like based on the relative frequencies.

9. **Create** Write and solve a problem where you use probability to estimate and make predictions.

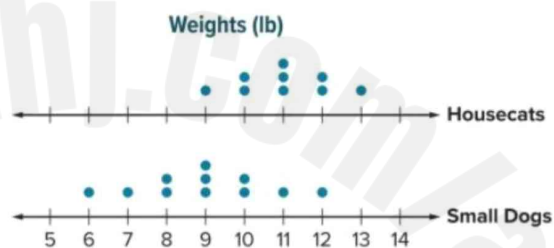
10. **MP Persevere with Problems** A number cube is rolled 24 times and lands on 6 three times. Find the experimental probability of *not* landing on a 6. Express your answer as fraction, decimal, and percent.

11. **MP Persevere with Problems** The experimental probability of flipping a red-yellow counter and landing on yellow is $\frac{9}{16}$. If the counter landed on red 35 times, find the number of tosses.

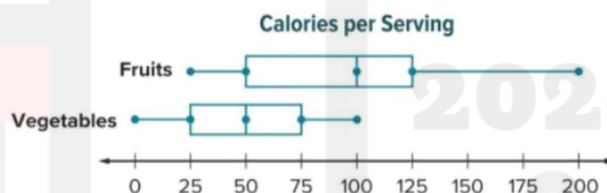
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1. The double dot plot shows the weights in pounds of several housecats and small dogs. Compare their centers and variability. What are some appropriate inferences you can make about the data? (Example 1)



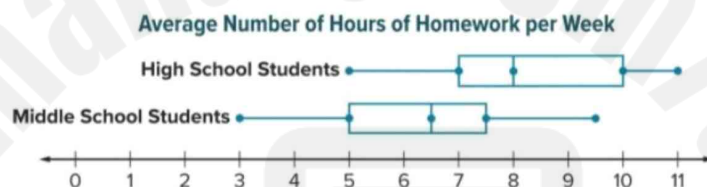
2. The double box plot shows the number of Calories per serving for various fruits and vegetables. What are some appropriate inferences you can make about the data? (Example 1)



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- 3. Table Item** The double box plot represents the average number of hours of homework each week for high school students and middle school students. Use the measures of center and variability of these samples to select the age group(s) to which each statement applies.



	Middle School	High School
The median is greater.		
The IQR is 2.5.		
The data have greater variability.		
A person from this sample is more likely to have more than 7 hours of homework a week.		
The data are more symmetric.		

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