

تجميعية أسئلة صفحات الكتاب وفق الهيكل الوزاري منهج ريفيل



تم تحميل هذا الملف من موقع المناهج الإماراتية

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

تاريخ إضافة الملف على موقع المناهج: 14:12:43 2025-05-17

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: Elatawy Alaa

التواصل الاجتماعي بحسب الصف الثامن



صفحة المناهج الإماراتية على فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الثامن والمادة رياضيات في الفصل الثالث

تجميعية أسئلة صفحات الكتاب وفق الهيكل الوزاري منهج بريدج

1

أسئلة مراجعة اختبار التقويم الثالث

2

حل أوراق عمل الوحدة الثانية عشرة نظرية المجموعات

3

حل أوراق عمل درس Parts Corresponding and Congruence منهج ريفيل

4

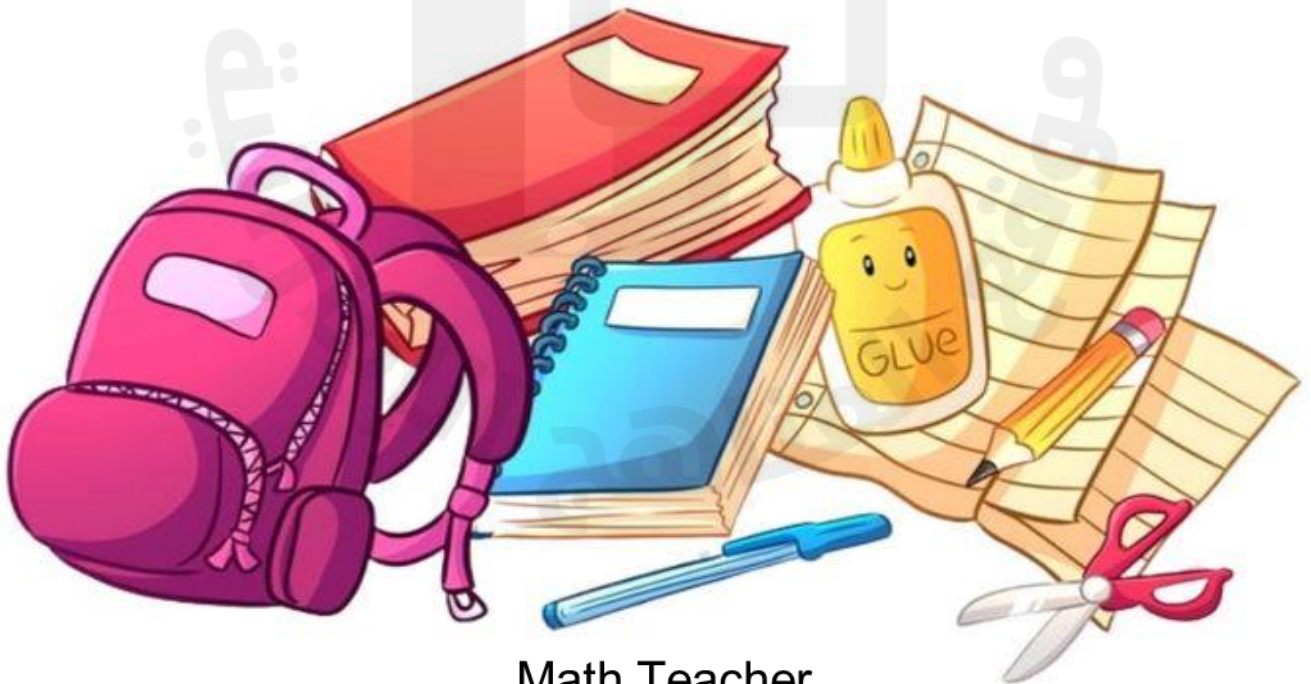
حل أوراق عمل درس Transformations and Similarity منهج ريفيل

5



TERM 3 (2024-2025)

Mathematics

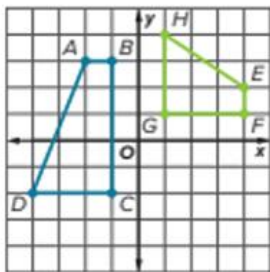


Math Teacher
. Alaa Elatawy

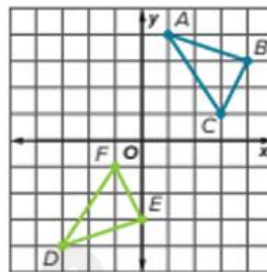
Part1	Type of Questions	FQR	Marks per each Question	7-9 marks
1	Use a composition of transformations, as well as the orientation of figures, to determine if two figures are congruen	(1 to 10)		Page:491, 492

Determine if each pair of figures are congruent. If so, describe a sequence of transformations that maps one figure onto the other figure. If not, explain why they are not congruent. (Examples 1 and 2)

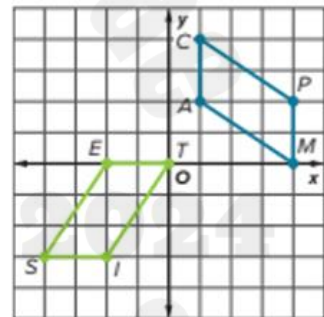
1.



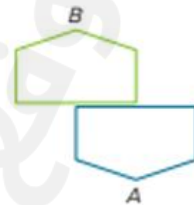
2.



3. Parallelogram *CAMP* is congruent to parallelogram *SITE*. Determine which sequence of transformations maps parallelogram *CAMP* onto parallelogram *SITE*. (Example 3)



4. For his school web page, Manuel created the logo shown at the right. What transformations could be used to create the logo if Figure A is the preimage and Figure B is the image? Are the two figures congruent? (Example 4)



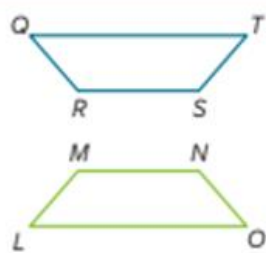
5. For the local art gallery opening, the curator had the design shown at the right created. What transformations could be used to create the design if Figure A is the preimage and Figure B is the image? Are the two figures congruent? (Example 4)



Test Practice

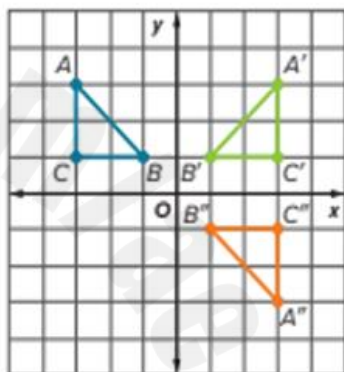
6. **Multiple Choice** Trapezoid $QRST$ and its image are shown. What transformation maps trapezoid $QRST$ onto trapezoid $LMNO$?

- (A) dilation about vertex R
 (B) vertical translation
 (C) reflection across a horizontal line
 (D) rotation about vertex Q



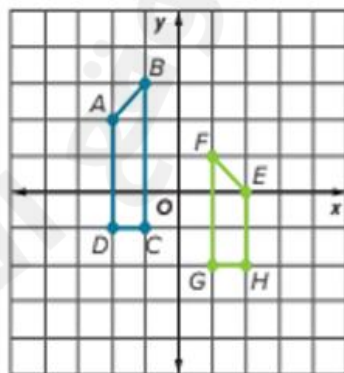
Apply

7. **MP Identify Structure** In some cases, a sequence of transformations is the same as a single transformation. Triangle ABC is reflected across the y -axis, and then reflected across the x -axis. Is there a single transformation that would map $\triangle ABC$ onto $\triangle A''B''C''$? Write an argument that can be used to defend your solution.



8. **Create** Design a logo for a club at your school, using translations, reflections, and/or rotations. Then explain to a classmate how your logo uses congruent figures.

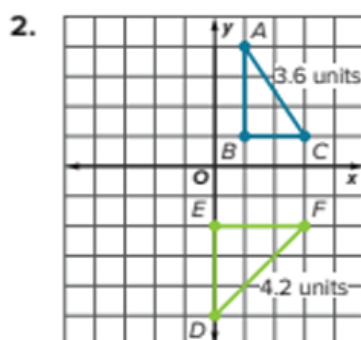
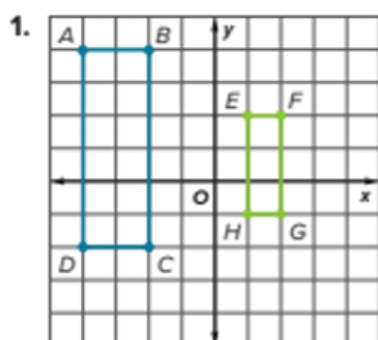
9. A student concluded that trapezoid $ABCD$ is congruent to trapezoid $EFGH$ because a reflection across the y -axis followed by a translation 2 units down maps trapezoid $ABCD$ onto trapezoid $EFGH$. Find the student's mistake and correct it.



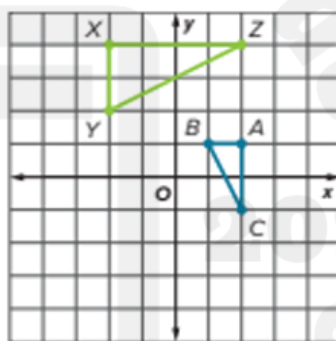
10. **MP Persevere with Problems** Triangle XYZ is reflected across the x -axis to produce triangle $X'Y'Z'$. Then triangle $X'Y'Z'$ is rotated 90° counterclockwise about the origin to create triangle $X''Y''Z''$. If triangle $X''Y''Z''$ has vertices $X''(4, 0)$, $Y''(2, -1)$, $Z''(2, 1)$, what are the coordinates of the vertices of triangle XYZ ?

2	Determine if two figures are similar by determining a sequence of rotations, reflections, translations, and dilations that maps one similar figure onto another	(1 to 10)	Page:511, 512
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Determine if each pair of figures is similar. If so, describe a sequence of transformations that maps one figure onto the other figure. If not, explain why they are not similar. (Examples 1 and 2)



3. Triangle ABC is similar to $\triangle XYZ$. Determine which sequence of transformations maps $\triangle ABC$ onto $\triangle XYZ$. (Example 3)



4. Jenna is creating a mural for her bedroom wall. She would like to copy a picture that is 2 inches by 2.5 inches. She uses a copy machine to enlarge it by a scale factor of 4. Then she projects it on her wall by a scale factor of 12. What are the dimensions of the mural? Are the enlarged pictures similar to the original? (Example 4)

Test Practice

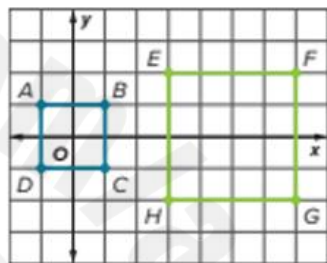
5. **Multiple Choice** Which sequence of transformations can be used to show that two figures are similar but not necessarily congruent?
- (A) dilation and rotation
 - (B) translation and reflection
 - (C) reflection and rotation
 - (D) rotation and translation

2	Determine if two figures are similar by determining a sequence of rotations, reflections, translations, and dilations that maps one similar figure onto another	(1 to 10)	Page:511, 512
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6. A graphic designer enlarges a rectangular image with a length of 3 inches and width of 5 inches by a scale factor of 2. Then he decides that the enlarged image is too large and reduces it by a scale factor of 0.25. Will the final image fit into a rectangular space that has an area of 3.5 square inches? Justify your response.
7. An artist needs to reduce the size of a painting. The original dimensions of the painting are 12 inches by 20 inches. She reduces the painting by a scale factor of $\frac{1}{4}$. She then decides that the reduced image is too small and enlarges it by a scale factor of 2. Will the final image fit in a rectangular space that has an area of 55 square inches? Justify your response.

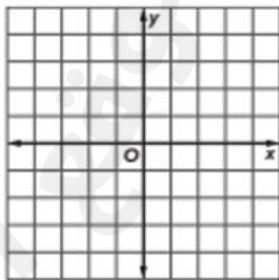
8. Square $ABCD$ is similar to square $EFGH$ because a dilation with a scale factor of 2 with the center of dilation at the origin, followed by a translation 5 units to the right maps square $ABCD$ onto square $EFGH$.

a. If you perform the translation first and then the dilation, will the squares still map onto one another? Explain.

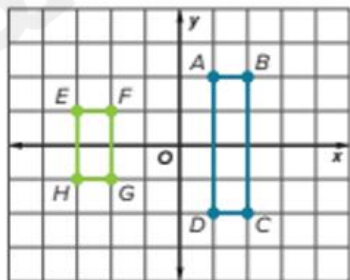


b. Describe a sequence of transformations that maps square $ABCD$ onto square $EFGH$, in which the first transformation is a translation.

9. Draw a two-dimensional figure on the coordinate plane. Then perform a series of transformations on the figure. Which figures are congruent? Which figures are similar?

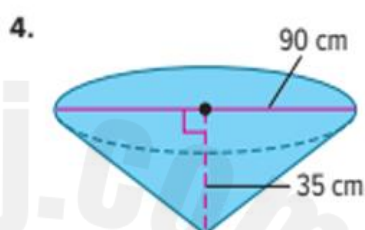
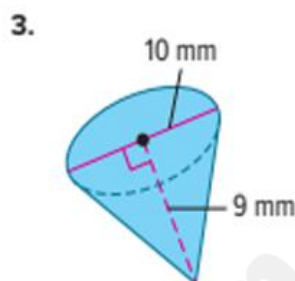
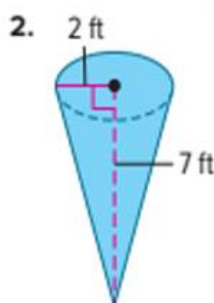
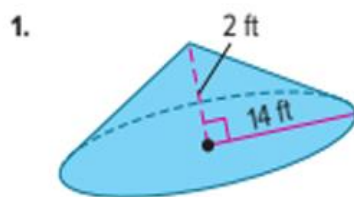


10. **MP Find the Error** A student concluded that rectangle $ABCD$ is similar to rectangle $EFGH$ because a dilation with a scale factor of 0.5 and a translation maps rectangle $ABCD$ onto rectangle $EFGH$. Find the student's mistake and correct it.



3	a) Use the formula for the volume of a cone to find the volume of a cone given its diameter or radius and the height	1 to 8	Page:549
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Find the volume of each cone. Express your answer in terms of π . (Example 1)



5. A funnel is in the shape of a cone. The radius is 2 inches and the height is 4.6 inches. What is the volume of the funnel? Round to the nearest tenth. (Example 2)

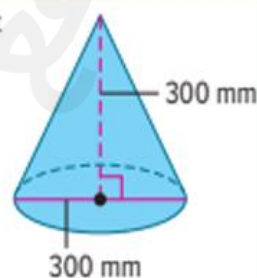
6. Marta bought a paperweight in the shape of a cone. The radius was 10 centimeters and the height 9 centimeters. Find the volume. Round to the nearest tenth. (Example 2)

Test Practice

7. A lampshade is in the shape of a cone. The diameter is 5 inches and the height is 6.5 inches. Find the volume. Round to the nearest tenth. (Example 2)

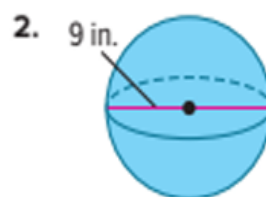
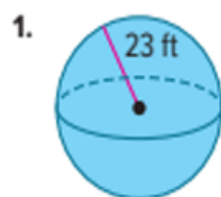
8. **Multiple Choice** What is the volume of the cone shown? (Use 3.14 for π)

- (A) 7,068,583.5 mm³
 (B) 14,137,166.9 mm³
 (C) 21,205,750.4 mm³
 (D) 229.33304 mm³



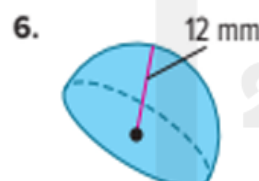
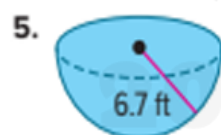
3	b) Use the formula for the volume of a sphere or hemisphere to find the volume of the figure given its radius or diameter	1 to 8	Page:557
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Find the volume of each sphere. Express your answer in terms of π . (Example 1)



3. A necklace has a single spherical pearl with a radius of 2.1 millimeters. What is the volume of the pearl? Round to the nearest tenth. (Example 2)
4. The radius of a mini-basketball is 4 inches. A pump can inflate the ball at a rate of 6 cubic inches per second. How long will it take to inflate the ball? Round to the nearest tenth. (Example 3)

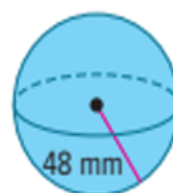
Find the volume of each hemisphere. Round to the nearest tenth. (Example 4)



7. Olga is using spherical beads to create a border on a picture frame. Each bead has a diameter of 1.5 millimeters. Find the volume of each bead. Round to the nearest tenth.

Test Practice

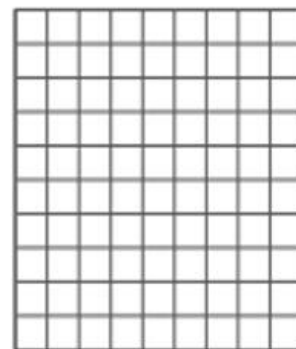
8. **Open Response** What is the volume of the sphere shown? (Use 3.14 for π .)



4	Use a scatter plot to draw a line that closely fits the data and predict values that are not present in the original data set	1 to 8	Page:597, 598
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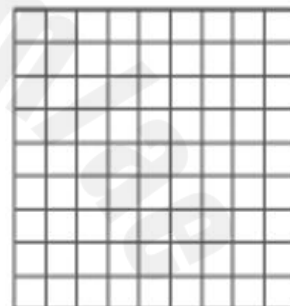
1. The table shows the average combined miles per gallon (MPG) and greenhouse gas (GHG) rating for certain mid-size cars. Construct a scatter plot. Then draw and assess a line that seems to represent the data. (Example 1)

Average MPG	22	25	31	28	16	26
GHG Rating	5	6	7	7	3	6
Average MPG	35	41	24	32	30	23
GHG Rating	8	9	5	8	7	5



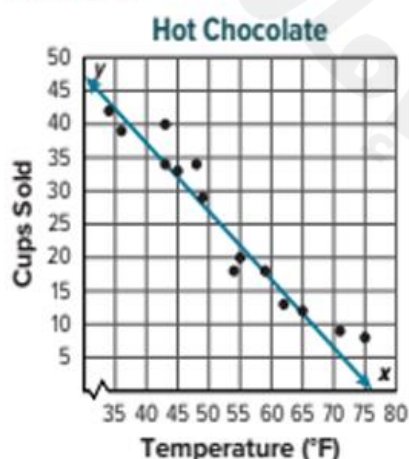
2. The table shows the fat and Calorie content for several snack foods. Construct a scatter plot. Then draw and assess a line that seems to represent the data. (Example 1)

Fat (g)	1	6	7	8	12	18	20
Calories	200	222	239	274	338	339	385

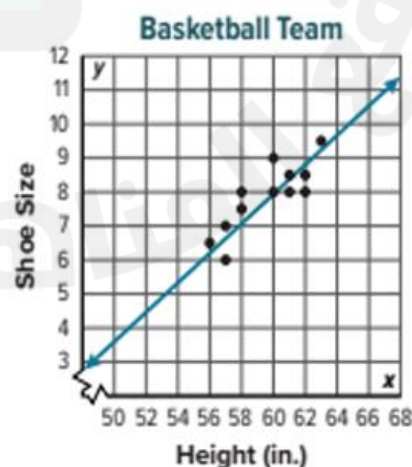


3. The scatter plot shows the number of cups of hot chocolate sold at a football game and the average temperature during the game. Use the line of fit to make a conjecture about the number of cups of hot chocolate sold if the average temperature is 50°F.

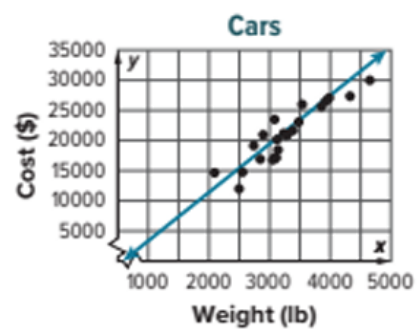
(Example 2)



4. The scatter plot shows the height and shoe size of the players on the boys' basketball team. Use the line of fit to make a conjecture about the shoe size of a boy on the team that is 59 inches tall. (Example 2)



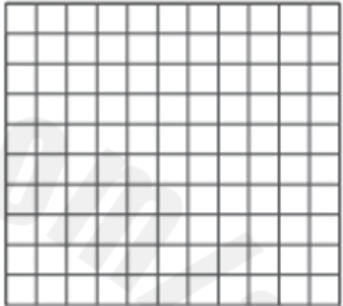
5. Open Response The scatter plot shows the weight of different cars and their cost. Determine whether or not the line of fit is an accurate representation of the relationship between the data. Explain your reasoning.



Apply

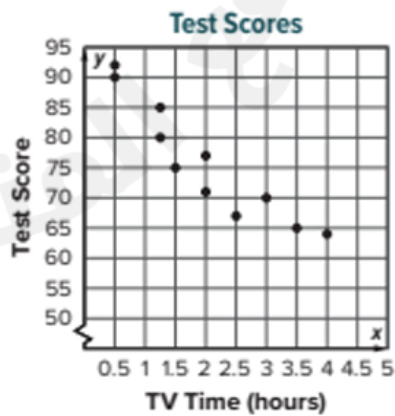
6. Several families are driving to an out-of-town soccer game. The table shows the distance each family drove and the time it took them. Construct a scatter plot to represent the data. Then draw and assess a line that seems to represent the data. Use the line of fit to make a conjecture about the time it would take a family to drive 135 miles to the game.

Distance (mi)	126	137	124	130	134	113
Time (h)	1.9	2.1	2.0	2.0	2.3	1.8
Distance (mi)	119	145	128	138	110	142
Time (h)	2.0	2.3	2.1	2.2	1.7	2.2



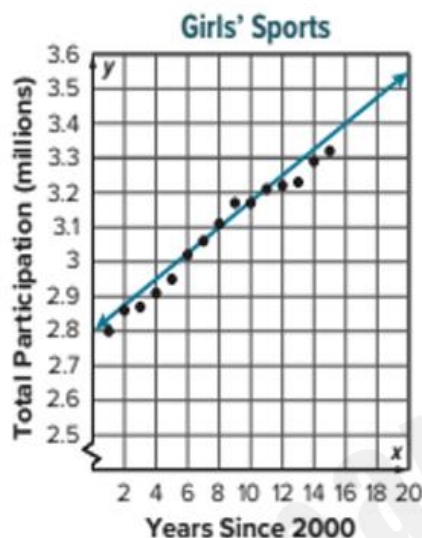
7. MP Justify Conclusions Determine if the following statement is *sometimes*, *always*, or *never* true. Explain your reasoning.
A line of fit can be used to make a prediction about the data shown in a scatter plot.

8. The scatter plot shows the relationship between the number of hours different students spent watching television and their test score the following day. Describe how you would draw a line of fit for the relationship. Then explain how you can use that line of fit to make a prediction about the test score of a student that watched television for 2.25 hours the night before.

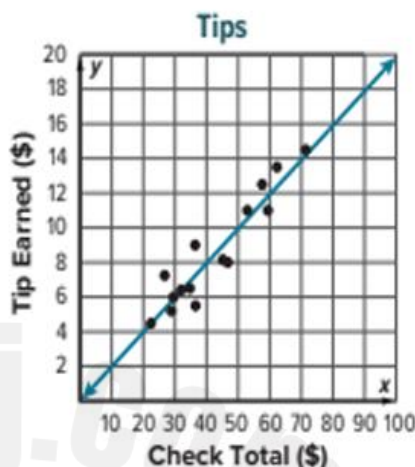


5	Find the equation for a line that closely fits the data and use it to predict values that are not present in the original data set	1 to 9	Page:607, 608
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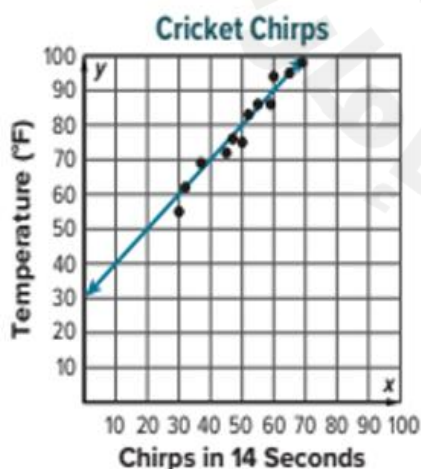
1. The scatter plot shows the number of girls that participated in high school sports. Write an equation in slope-intercept form for the line of fit that is drawn. Then interpret the slope and y-intercept. (Example 1)



2. The scatter plot shows the tips different restaurant servers earned one night. Write an equation in slope-intercept form for the line of fit that is drawn. Then interpret the slope and y-intercept. (Example 1)

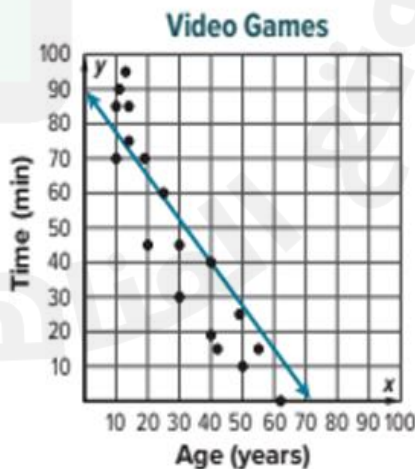


3. The scatter plot shows the relationship between the number of times a cricket chirps and the current temperature. Write an equation for the line of fit. Then use it to make a conjecture about the temperature when there are 40 cricket chirps. (Example 2)



Test Practice

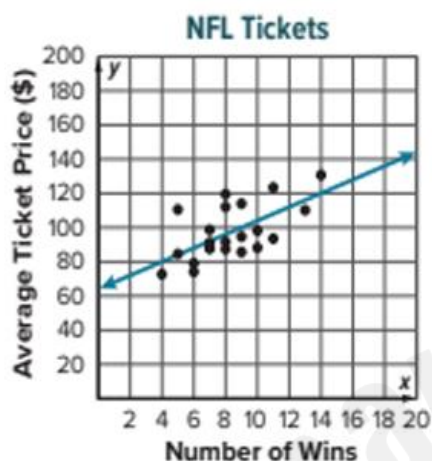
4. **Multiple Choice** The scatter plot shows the results of a survey about age and daily time spent playing video games. Which equation best represents the line of fit?



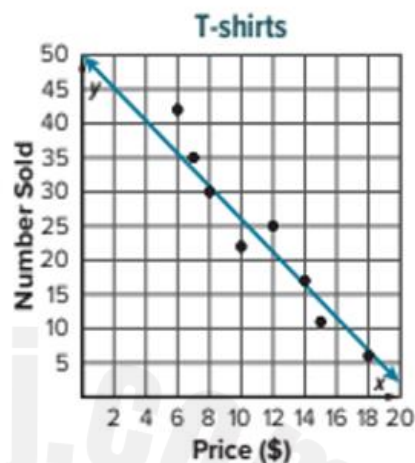
- (A) $y = 0.8x + 90$ (C) $y = 1.25x + 90$
 (B) $y = -0.8x + 90$ (D) $y = -1.25x + 90$

5	Find the equation for a line that closely fits the data and use it to predict values that are not present in the original data set	1 to 9	Page:607, 608
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5. The scatter plot shows the average ticket price and the number of wins for certain NFL teams. How much more is the average price of a ticket for a team with 14 wins than a team with 3 wins? Round to the nearest dollar if necessary.



6. The scatter plot shows the number of T-shirts sold at different prices in a souvenir shop. How many more T-shirts were sold for \$9 than \$16?



7. When will the slope of a line of fit be positive? When will it be negative?

8. **MP Make a Conjecture** What would make a scatter plot and its corresponding line of fit more useful to make accurate predictions? Will a line of fit always predict what will happen in the future? Explain your reasoning.

9. Lisle works on commission. During the first six months of the year her commissions have been steadily falling. The scatter plot shows Lisle's eating habits during these six months, with "1" being January.

- a. Do the two lines of fit intersect? If so, what is the point of intersection and what does it represent?

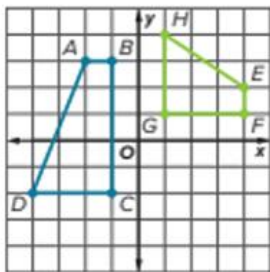
- b. How could you use the equations for the lines of fit to verify that the point (4, 15) is common to both lines?



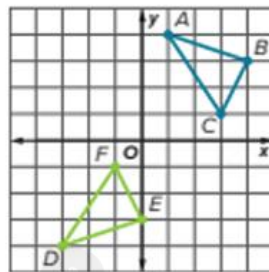
Part2	Type of Questions	MCQ	Marks per each Question	4 marks
1	Use a composition of transformations, as well as the orientation of figures, to determine if two figures are congruent	(1 to 10)	Page:491, 492	

Determine if each pair of figures are congruent. If so, describe a sequence of transformations that maps one figure onto the other figure. If not, explain why they are not congruent. (Examples 1 and 2)

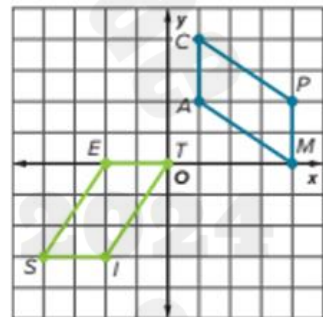
1.



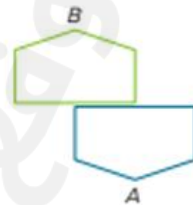
2.



3. Parallelogram *CAMP* is congruent to parallelogram *SITE*. Determine which sequence of transformations maps parallelogram *CAMP* onto parallelogram *SITE*. (Example 3)



4. For his school web page, Manuel created the logo shown at the right. What transformations could be used to create the logo if Figure A is the preimage and Figure B is the image? Are the two figures congruent? (Example 4)



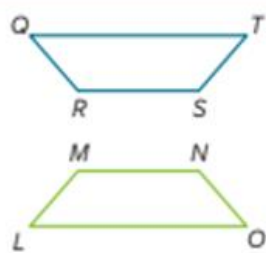
5. For the local art gallery opening, the curator had the design shown at the right created. What transformations could be used to create the design if Figure A is the preimage and Figure B is the image? Are the two figures congruent? (Example 4)



Test Practice

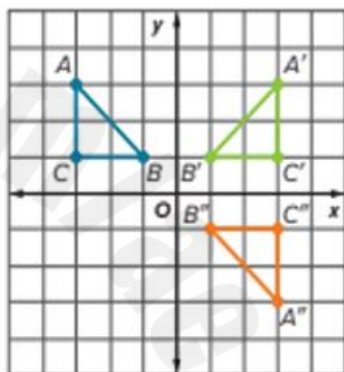
6. **Multiple Choice** Trapezoid $QRST$ and its image are shown. What transformation maps trapezoid $QRST$ onto trapezoid $LMNO$?

- (A) dilation about vertex R
 (B) vertical translation
 (C) reflection across a horizontal line
 (D) rotation about vertex Q



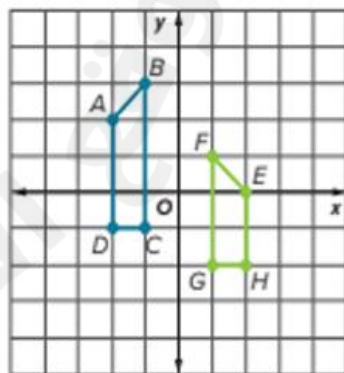
Apply

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8. **Create** Design a logo for a club at your school, using translations, reflections, and/or rotations. Then explain to a classmate how your logo uses congruent figures.

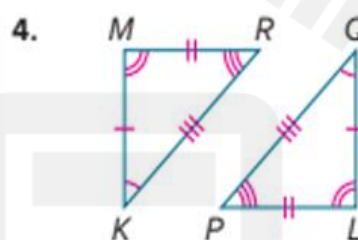
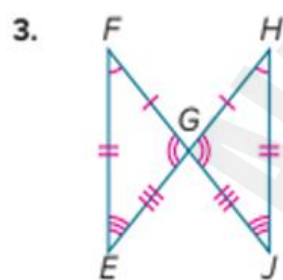
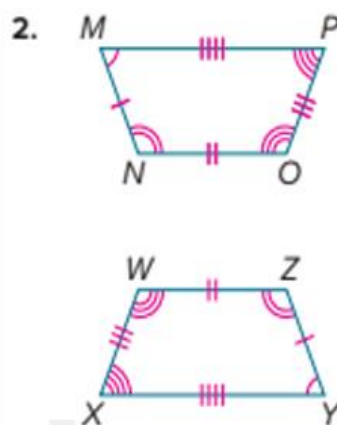
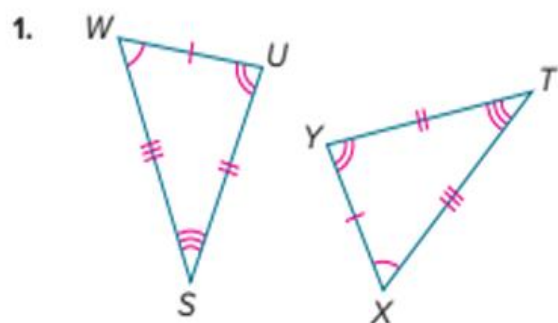
9. A student concluded that trapezoid $ABCD$ is congruent to trapezoid $EFGH$ because a reflection across the y -axis followed by a translation 2 units down maps trapezoid $ABCD$ onto trapezoid $EFGH$. Find the student's mistake and correct it.



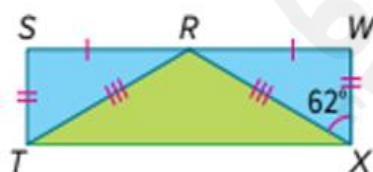
10. **MP Persevere with Problems** Triangle XYZ is reflected across the x -axis to produce triangle $X'Y'Z'$. Then triangle $X'Y'Z'$ is rotated 90° counterclockwise about the origin to create triangle $X''Y''Z''$. If triangle $X''Y''Z''$ has vertices $X''(4, 0)$, $Y''(2, -1)$, $Z''(2, 1)$, what are the coordinates of the vertices of triangle XYZ ?

2	Use the properties of rotations, reflections, and translations to identify congruent parts of congruent figures and to find missing measures	1 to 12	Page:499, 500
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Write congruence statements comparing the corresponding parts in each set of congruent figures. (Example 1)

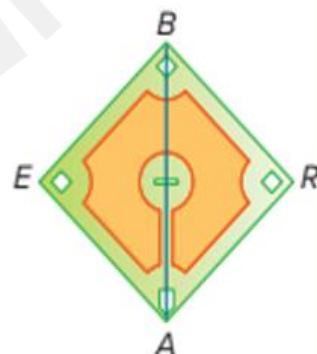


5. In the quilt design shown, $\triangle RST \cong \triangle RWX$. If $m\angle WXR = 62^\circ$, what is the measure of $\angle STR$? (Example 2)



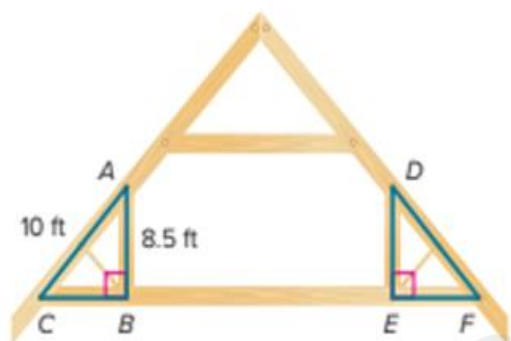
Test Practice

6. **Open Response** In the baseball diamond shown, $\triangle BEA \cong \triangle ARB$. The length of \overline{BE} is 90 feet. What is the length of \overline{AR} ? (Example 2)



2	Use the properties of rotations, reflections, and translations to identify congruent parts of congruent figures and to find missing measures	1 to 12	Page:499, 500
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7. In the roof construction shown, $\triangle ABC \cong \triangle DEF$. If $AB = 8.5$ feet and $AC = 10$ feet, what is the length of \overline{EF} ? Round to the nearest tenth.



8. In the city park map shown, $\triangle DEF \cong \triangle JKL$. The distance from D to E is 20 yards and the distance from D to F is 40 yards. What is the distance from K to L ? Round to the nearest tenth.



9. **Create** Write a real-world problem involving congruent figures in which you would need to find the measure of a missing angle or side.

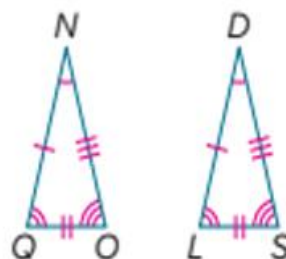
10. Determine if the statement is *true* or *false*. Write an argument that can be used to defend your solution.

If two figures are congruent, then their areas are equal.

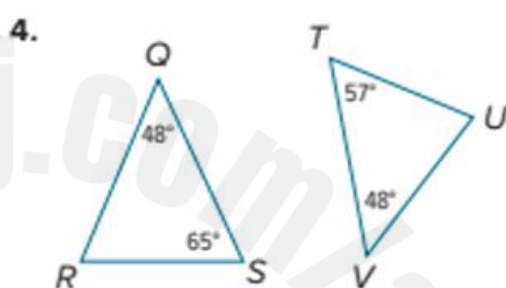
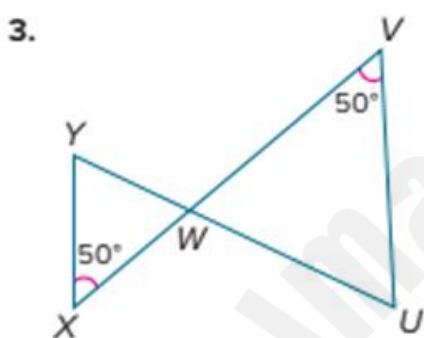
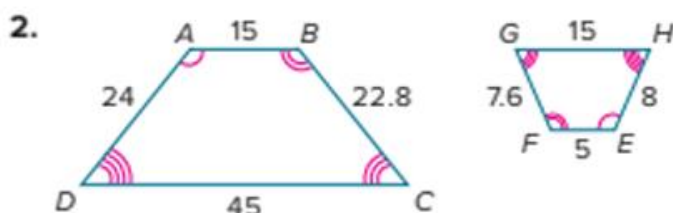
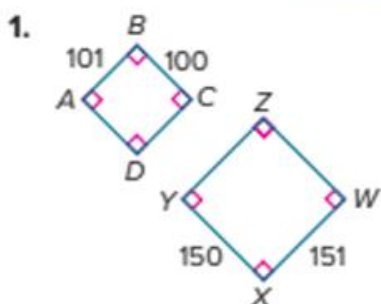
11. Determine whether the statement is true or false. Create several pairs of triangles and measure the corresponding sides and angles to justify your response.

If three sides of one triangle are congruent to the corresponding sides of another triangle, then the two triangles are congruent.

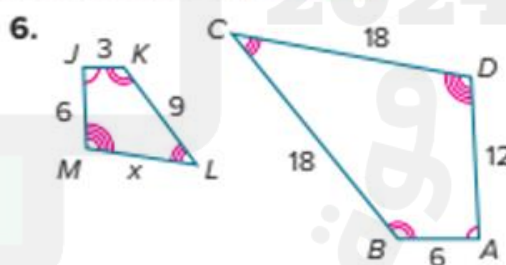
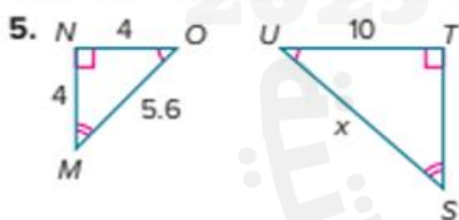
12. **MP Find the Error** A student wrote the congruence statement $\triangle NOQ \cong \triangle DLS$ for the congruent triangles shown. Find the student's mistake and correct it.



Determine whether each pair of polygons is similar. If so, write a similarity statement. (Examples 1 and 2)



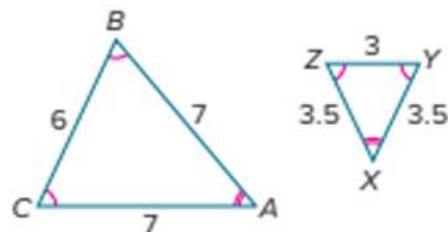
Each pair of polygons is similar. Find each missing side measure. (Example 3)



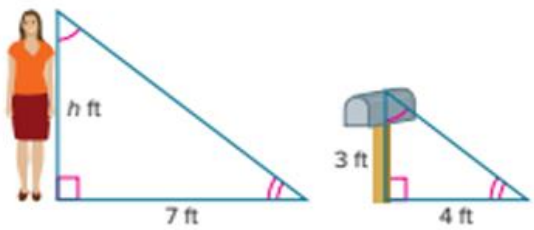
Test Practice

7. Multiselect Which of the following is true about $\triangle ABC$ and $\triangle XYZ$? Select all that apply.

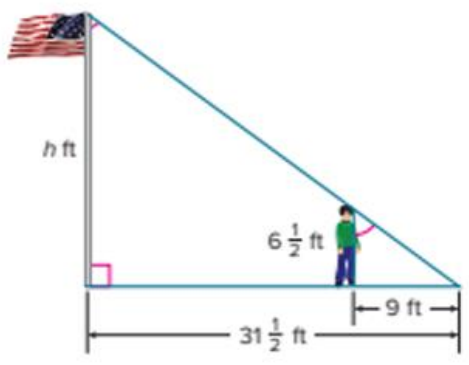
- ☐ The triangles are similar.
- ☐ The triangles are not similar.
- ☐ The triangles are congruent.
- ☐ $\triangle ABC \sim \triangle XYZ$
- ☐ $\triangle ABC \cong \triangle XYZ$



1. Becky casts a 7-foot shadow at the same time a nearby mailbox casts a 4-foot shadow. If the mailbox is 3 feet tall, how tall is Becky? (Example 1)



2. At the same time a $6\frac{1}{2}$ -foot tall teacher casts a 9-foot shadow, a nearby flagpole casts a $31\frac{1}{2}$ -foot shadow. How tall is the flagpole? (Example 1)



3. In the figure, $\triangle ABE$ is similar to $\triangle ACD$. What is the height h of the ramp when it is 2 feet from the building? (Example 2)



4. In the figure, the triangles are similar. What is the distance d from the water ride to the roller coaster? Round to the nearest tenth. (Example 2)



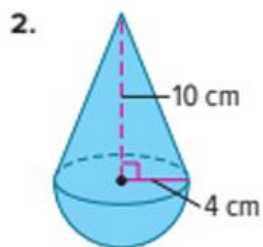
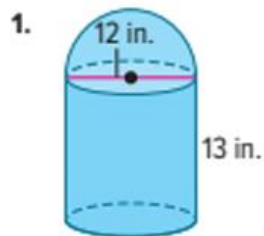
5. If a 25-foot-tall house casts a 75-foot shadow at the same time that a streetlight casts a 60-foot shadow, how tall is the streetlight?

6. **Table Item** A child and a statue casts the shadow lengths shown at the same time. Complete the table to find the height, in feet, of the statue.

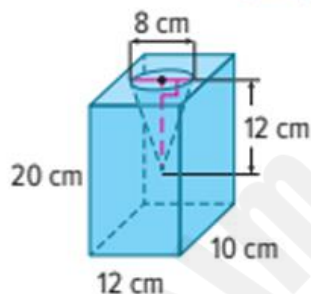
Object	Height of Object (ft)	Shadow Length (ft)
Emma	3.5	5.25
Statue		57

5	Find the volume of a composite figure by decomposing it into cubes, cones, cylinders, and spheres, and using the known volume formulas for these figure	1 to 12	Page:573, 574
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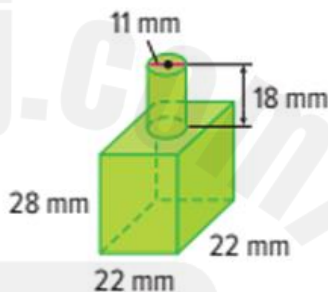
Find the volume of each solid. Round to the nearest tenth. (Example 1)



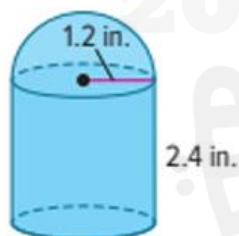
3. Find the volume of the flower vase. Round to the nearest tenth. (Example 2)



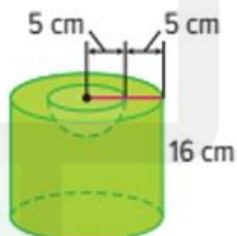
4. Find the volume of the nail polish bottle. Round to the nearest tenth. (Example 3)



5. Find the volume of the salt shaker. Round to the nearest tenth.

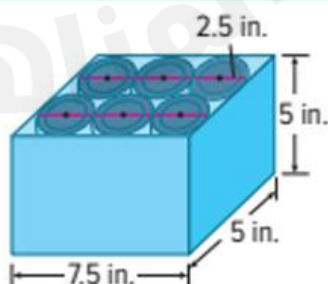


6. Find the volume of the solid. Round to the nearest tenth.



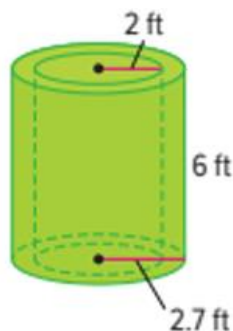
Test Practice

7. **Open Response** A box contains six identical cans, as shown. What percentage of the volume of the box is occupied by the cans? Round to the nearest tenth of a percent.

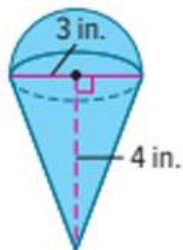


5	Find the volume of a composite figure by decomposing it into cubes, cones, cylinders, and spheres, and using the known volume formulas for these figure	1 to 12	Page:573, 574
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8. What is the volume of the composite solid in cubic yards? Round to the nearest tenth.

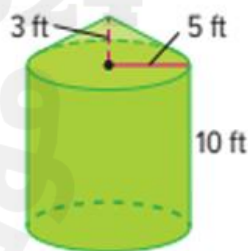


9. Mel's Ice Cream Shop has cylindrical containers to hold its ice cream. Each cylinder has a diameter of 10 inches and a height of 15 inches. How many of the cones shown can be made without any leftover ice cream?



10. What measurements do you need to know in order to find the volume of a composite solid composed of a hemisphere and a cone?

11. **MP Be Precise** Mateo is finding the volume of the solid shown. He found the volume of the cylinder to be 250π cubic feet and the volume of the cone to be 25π cubic feet. Explain how he can use the Distributive Property to add 250π and 25π without using an approximation.

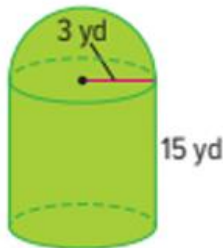


12. **MP Find the Error** A student found the volume of the solid shown. Find her mistake and correct it.

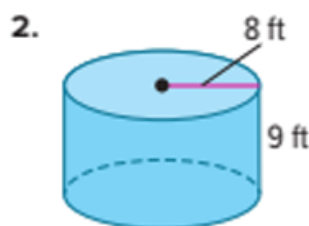
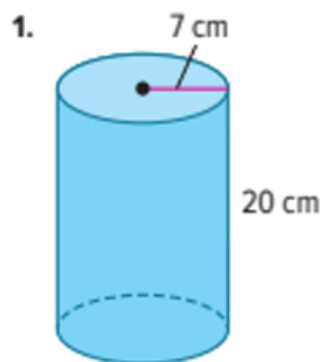
$$V = \frac{4}{3}\pi r^3 + \pi r^2 h$$

$$V = \frac{4}{3}\pi(3)^3 + \pi(3)^2(15)$$

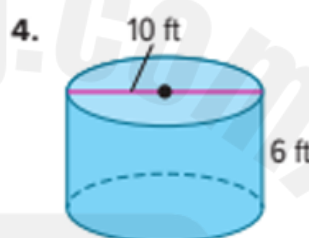
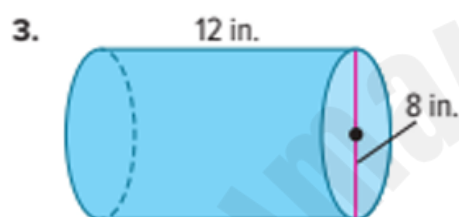
$$V = 171\pi \text{ yd}^3$$



Find the volume of each cylinder. Round to the nearest tenth. (Example 1)



Find the volume of each cylinder. Express your answer in terms of π . (Example 2)

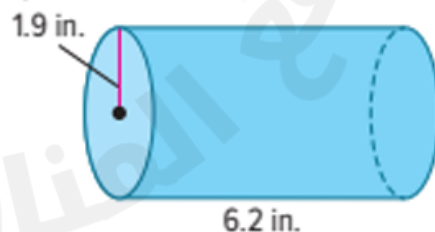


5. A wooden toy block is in the shape of a cylinder. The toy block has a height of 4 inches and a diameter of 3 inches. How much does the toy block weigh if 1 cubic inch of wood weighs 0.55 ounce? Round to the nearest tenth. (Example 3)

Test Practice

6. A large rainwater collection tub is shaped like a cylinder. The diameter is 28 inches and the height is 40 inches. If the tub is 75% filled, what is the volume of water in the tub? Round to the nearest tenth.

7. **Multiple Choice** What is the volume of the cylinder shown? (Use 3.14 for π)

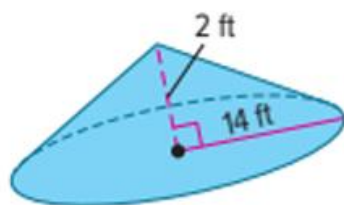


- (A) 22.382 in³
 (B) 70.279 in³
 (C) 73.036 in³
 (D) 229.333 in³

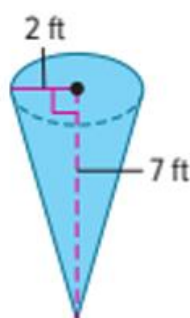
7	Use the formula for the volume of a cone to find the volume of a cone given its diameter or radius and the height	1 to 8	Page:549
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Find the volume of each cone. Express your answer in terms of π . (Example 1)

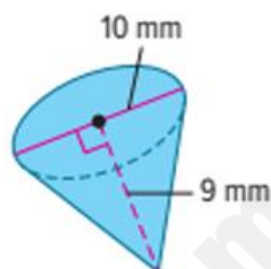
1.



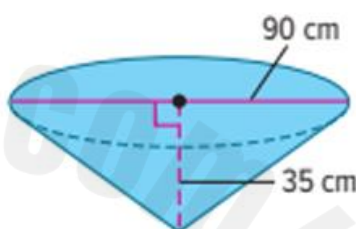
2.



3.



4.



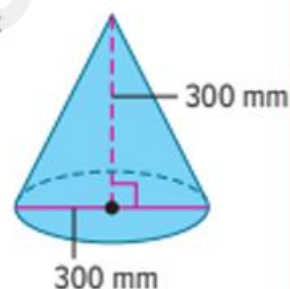
5. A funnel is in the shape of a cone. The radius is 2 inches and the height is 4.6 inches. What is the volume of the funnel? Round to the nearest tenth. (Example 2)

6. Marta bought a paperweight in the shape of a cone. The radius was 10 centimeters and the height 9 centimeters. Find the volume. Round to the nearest tenth. (Example 2)

7. A lampshade is in the shape of a cone. The diameter is 5 inches and the height is 6.5 inches. Find the volume. Round to the nearest tenth. (Example 2)

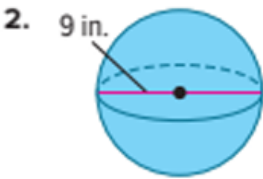
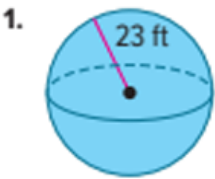
Test Practice

8. **Multiple Choice** What is the volume of the cone shown? (Use 3.14 for π)



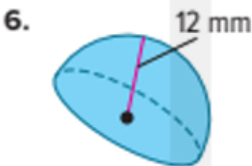
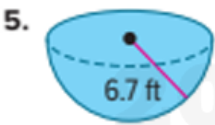
- (A) 7,068,583.5 mm³
 (B) 14,137,166.9 mm³
 (C) 21,205,750.4 mm³
 (D) 229.33304 mm³

Find the volume of each sphere. Express your answer in terms of π . (Example 1)



3. A necklace has a single spherical pearl with a radius of 2.1 millimeters. What is the volume of the pearl? Round to the nearest tenth. (Example 2)
4. The radius of a mini-basketball is 4 inches. A pump can inflate the ball at a rate of 6 cubic inches per second. How long will it take to inflate the ball? Round to the nearest tenth. (Example 3)

Find the volume of each hemisphere. Round to the nearest tenth. (Example 4)



Test Practice

7. Olga is using spherical beads to create a border on a picture frame. Each bead has a diameter of 1.5 millimeters. Find the volume of each bead. Round to the nearest tenth.
8. Open Response What is the volume of the sphere shown? (Use 3.14 for π)



1. The volume of a cylinder is 72π cubic feet and the radius is 6 feet. What is the height of the cylinder? (Example 1)

2. The volume of a cylinder is $5,070\pi$ cubic centimeters. The height of the cylinder is 30 centimeters. Find the radius. (Example 1)

3. The volume of a cone is 196π cubic feet. Its radius is 7 feet. Find the height. (Example 2)

4. The volume of a cone is 735π cubic millimeters and the height is 5 millimeters. What is the radius of the cone? (Example 2)

5. Find the radius of a sphere with a volume of $26,244\pi$ cubic inches. (Example 3)

6. The volume of a sphere is $4,500\pi$ cubic yards. What is the radius of the sphere? (Example 3)

7. Melody has a mug with a diameter of 3.5 inches and a height of 4 inches. It is filled to the top with water. She wants to pour it into a different mug with a diameter of 3 inches. What is the minimum height the different mug must be so it does not overflow? Round to the nearest tenth.

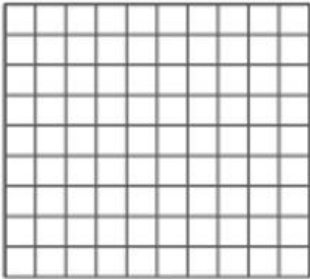
Test Practice

8. **Equation Editor** The volume of a sphere is $\frac{1,372}{3}\pi$ cubic inches. Find the diameter of the sphere, in inches.

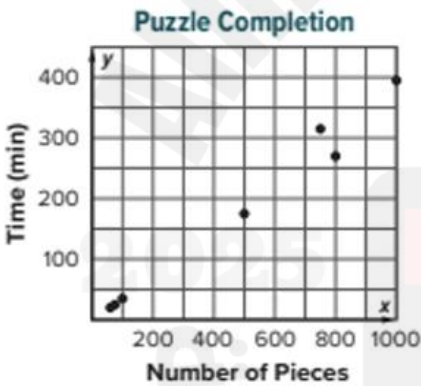
←	→	↶	↷	⌫
1	2	3		
4	5	6		
7	8	9		
0	.	-		

1. The table shows the average points scored per game by an NBA player in the first ten seasons of his career. Construct a scatter plot of the data. (Example 1)

Season	1	2	3	4	5
Average Points Per Game	28.2	22.7	37.1	35.0	32.5
Season	6	7	8	9	10
Average Points Per Game	33.6	31.5	30.1	32.6	26.9

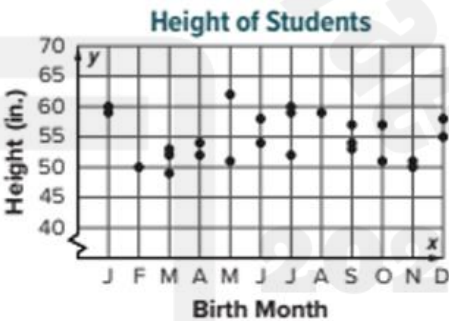


2. The scatter plot shows the relationship between the number of pieces in a jigsaw puzzle and the number of minutes that are recommended to complete the puzzle. Interpret the scatter plot. (Example 2)



Test Practice

3. **Multiple Choice** The scatter plot shows the relationship between the birth month of every student in Mari's class and their height. Which is the best interpretation of the data? (Example 3)



- (A) As the months progress, the heights of the students increase. There is a positive, linear association. There are no clusters or outliers.
- (B) The height of a student does not depend on their birth month. The scatter plot shows no association.
- (C) As the months progress, the heights of the students decrease. There is a negative, linear association. There are no clusters or outliers.
- (D) As the months progress, the heights of the students are the same. There is a positive, linear association.

10	Use a set of bivariate data to construct a scatter plot and describe the association as positive or negative and as linear or nonlinea	1 to 7	Page:589, 590
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Apply

4. The table shows the relationship between the number of days of school missed by students and their semester grades. Interpret a scatter plot representing the data.

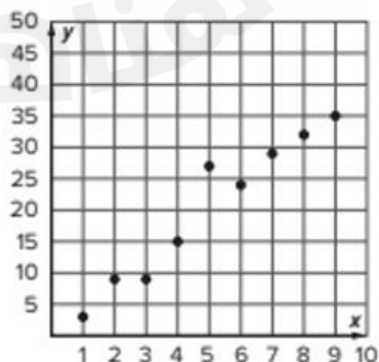
Days Missed	8	3	2	10	6	7	1	13	11	4
Semester Grade	70	84	92	72	72	81	95	71	69	80
Days Missed	1	13	4	6	3	5	12	3	6	2
Semester Grade	98	68	91	72	91	78	70	89	76	94

5. **MP Find the Error** The table shows the daily high temperature and the number of cups of lemonade sold at a concession stand that day. Lucas determined that a scatter plot of the data would show that as the temperature increases, the number of cups sold decreases. Find his mistake and correct it.

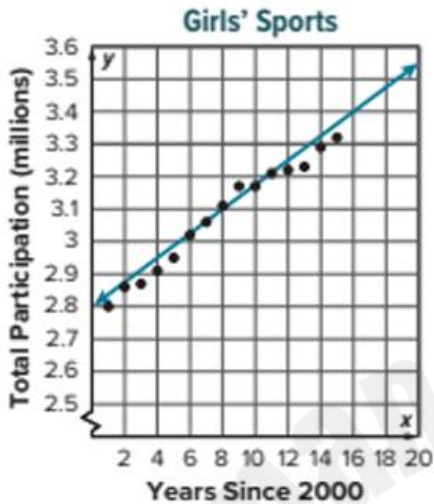
Temperature (°F)	Cups Sold	Temperature (°F)	Cups Sold
80	12	98	40
72	7	77	18
89	26	67	5
93	37	82	19
74	7	86	16

6. **MP Justify Conclusions** Determine if the following statement is *true* or *false*. Explain your reasoning.
In a scatter plot, if the y-values decrease as the x-values decrease, the scatter plot represents a negative association.

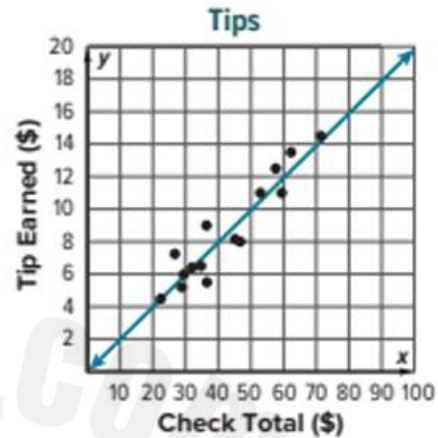
7. **Create** Describe a situation that the scatter plot shown might represent. Then interpret the scatter plot.



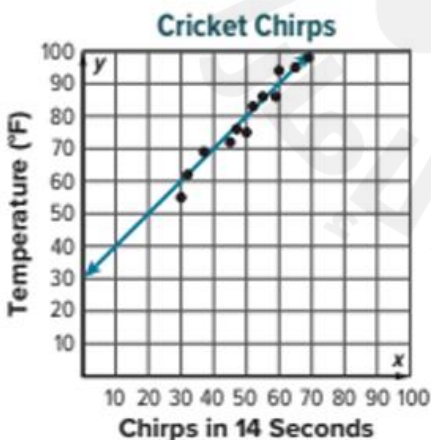
1. The scatter plot shows the number of girls that participated in high school sports. Write an equation in slope-intercept form for the line of fit that is drawn. Then interpret the slope and y-intercept. (Example 1)



2. The scatter plot shows the tips different restaurant servers earned one night. Write an equation in slope-intercept form for the line of fit that is drawn. Then interpret the slope and y-intercept. (Example 1)

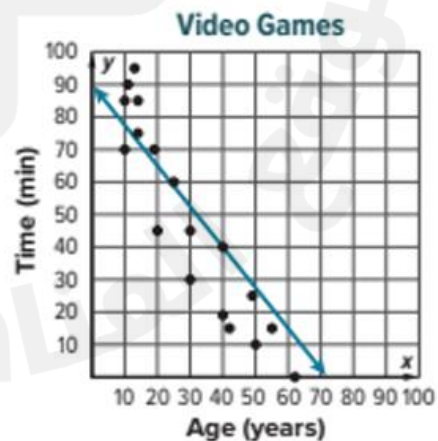


3. The scatter plot shows the relationship between the number of times a cricket chirps and the current temperature. Write an equation for the line of fit. Then use it to make a conjecture about the temperature when there are 40 cricket chirps. (Example 2)



Test Practice

4. **Multiple Choice** The scatter plot shows the results of a survey about age and daily time spent playing video games. Which equation best represents the line of fit?

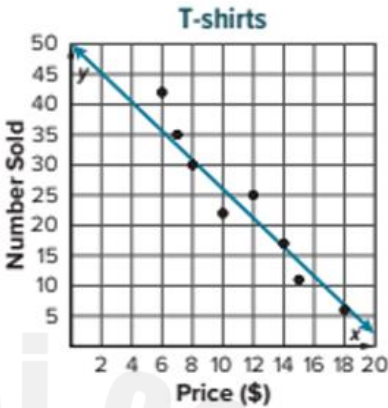


- (A) $y = 0.8x + 90$ (C) $y = 1.25x + 90$
 (B) $y = -0.8x + 90$ (D) $y = -1.25x + 90$

5. The scatter plot shows the average ticket price and the number of wins for certain NFL teams. How much more is the average price of a ticket for a team with 14 wins than a team with 3 wins? Round to the nearest dollar if necessary.



6. The scatter plot shows the number of T-shirts sold at different prices in a souvenir shop. How many more T-shirts were sold for \$9 than \$16?



7. When will the slope of a line of fit be positive? When will it be negative?

8. **MP Make a Conjecture** What would make a scatter plot and its corresponding line of fit more useful to make accurate predictions? Will a line of fit always predict what will happen in the future? Explain your reasoning.

9. Lisle works on commission. During the first six months of the year her commissions have been steadily falling. The scatter plot shows Lisle's eating habits during these six months, with "1" being January.

- a. Do the two lines of fit intersect? If so, what is the point of intersection and what does it represent?
- b. How could you use the equations for the lines of fit to verify that the point (4, 15) is common to both lines?



1. Omar surveyed students at his school. He found that 23 students are in the Chess Club, and 8 of those students are in the Math Club. There are 19 students that are in the Math Club. Ten students are in neither club. Construct a two-way table summarizing the data. (Example 1)

	Math Club	No Math Club	Total
Chess Club			
No Chess Club			
Total			

2. The table shows the results of a survey that asked seventh and eighth grade students whether they buy or pack their lunch. Find the relative frequencies. Round to the nearest hundredth. Are seventh graders or eighth graders more likely to buy their lunch? Explain. (Example 2)

	Buy Lunch	Pack a Lunch	Total
7th Graders	30	45	75
8th Graders	51	25	76
Total	81	70	151

3. The table shows the results of a survey about the number of bus riders at McGuffey Junior High. Find the relative frequencies. Round to the nearest hundredth. Are male students or female students more likely to not ride the bus? Explain. (Example 3)

	Male	Female	Total
Bus	110	84	194
No Bus	85	42	127
Total	195	126	321

Test Practice

4. **Multiselect** The two-way table shows the enrollment in language classes at Carson Middle School. Which of the following are valid conclusions about the data? Select all that apply.

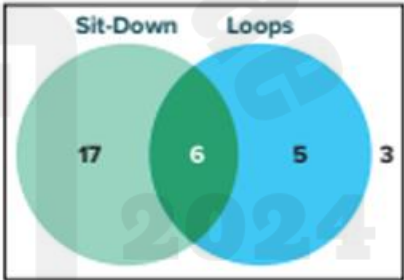
	Enrolled in Spanish	Not Enrolled in Spanish	Total
Enrolled in French	30	65	95
Not Enrolled in French	20	5	25
Total	50	70	120

- ☐ Of the students that are enrolled in French, fewer than half of them are also enrolled in Spanish.
- ☐ More than half of the students are not enrolled in French or Spanish.
- ☐ Students that are enrolled in Spanish are likely to be enrolled in French.
- ☐ More than half of the students are enrolled in French.
- ☐ Students are more likely to be enrolled in Spanish than not in Spanish.

Apply

5. The Venn diagram shows data about the roller coasters at two different amusement parks. It compares whether or not they are sit-down coasters and whether or not they have loops. Construct a two-way table to represent the data.

Sit-Down Versus Suspended Roller Coasters



	Sit-Down	Suspended	Total
Loops			
No Loops			
Total			

6. **MP Find the Error** Natalia surveyed 150 people about when going to the movie theater, if they like to watch comedies or dramas and whether or not they buy popcorn. Out of 90 people that liked comedies, 75 said they buy popcorn. There were 40 people that said they do not buy popcorn. Natalia created the two-way table shown to display the results. Find her mistake and correct it.

	Popcorn	No Popcorn	Total
Comedy	75	35	110
Drama	15	25	40
Total	90	60	150