

## شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



## الملف حل مراجعة وفق الهيكل الوزاري ريفيل

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

## روابط مواقع التواصل الاجتماعي بحسب الصف الثامن



## روابط مواد الصف الثامن على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

[اللغة العربية](#)

[التربية الاسلامية](#)

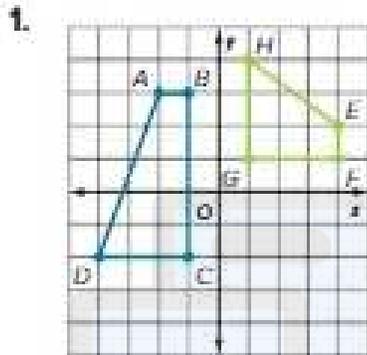
## المزيد من الملفات بحسب الصف الثامن والمادة رياضيات في الفصل الثالث

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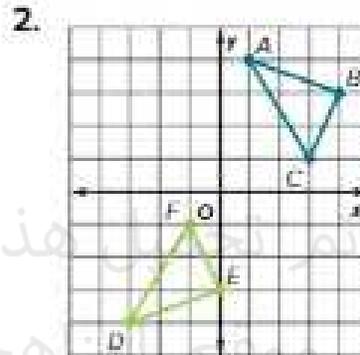
Miss Lolita

**Q1 Use composition of transformation, as well as the orientation of figure, determine 1-6 P(491-492)  
Two figures are congruent.**

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)



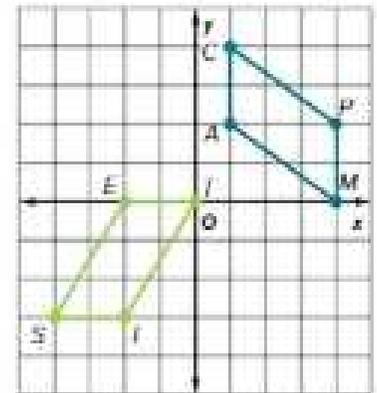
not congruent; Sample answer: No sequence of rotations, reflections, and/or translations will match the two figures up exactly.



congruent; Sample answer: Reflecting  $\triangle ABC$  across the  $x$ -axis followed by a translation 4 units left maps  $\triangle ABC$  onto  $\triangle DEF$ .

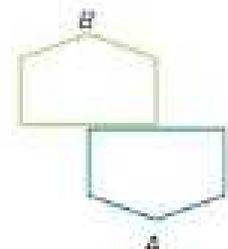
3. Parallelogram  $CAMP$  is congruent to parallelogram  $SITE$ . Determine which sequence of transformations maps parallelogram  $CAMP$  onto parallelogram  $SITE$ . (Example 3)

Sample answer: If you rotate parallelogram  $CAMP$   $90^\circ$  counterclockwise about the origin and then translate it 4 units down, it coincides with parallelogram  $SITE$ .



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)

Sample answer: a rotation followed by a translation; They are congruent.



Q1. Use composition of transformation, as well as the orientation of figure, determine 1-6 P(491-492)  
Two figures are congruent.

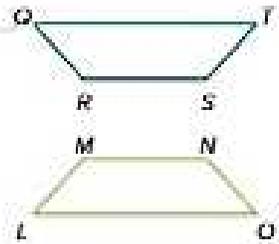
5. For the local art gallery opening, the curator had the design shown at the right created. What transformations could be used to create the design if Figure A is the preimage and Figure B is the image? Are the two figures congruent? (Example 4)



**Sample answer: a reflection followed by a translation; They are congruent.**

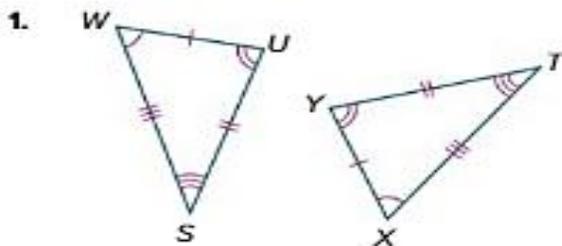
6. **Multiple Choice** Trapezoid  $QRST$  and its image are shown. What transformation maps trapezoid  $QRST$  onto trapezoid  $LMNO$ ?

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

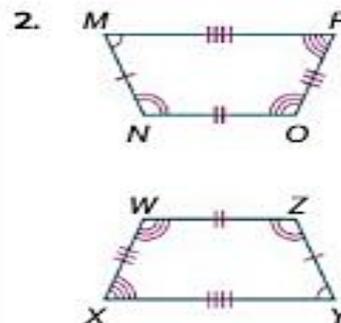


Q2. Use the properties of rotation, translations, reflections to identify congruent parts of 1-8 P(499-500)  
Congruent figures and to find missing measures.

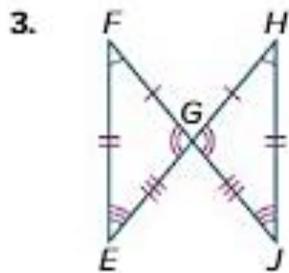
Write congruence statements comparing the corresponding parts in each set of congruent figures. (Example 1)



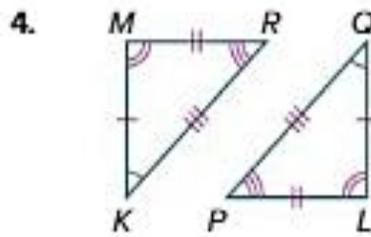
$$\angle W \cong \angle Y, \angle U \cong \angle T, \angle S \cong \angle X, \overline{WU} \cong \overline{YX}, \\ \overline{US} \cong \overline{YT}, \overline{SW} \cong \overline{TX}$$



$$\angle M \cong \angle W, \angle N \cong \angle X, \angle O \cong \angle Y, \angle P \cong \angle Z, \\ \overline{MN} \cong \overline{WX}, \overline{NO} \cong \overline{XY}, \overline{OP} \cong \overline{YZ}, \overline{PM} \cong \overline{XZ}$$

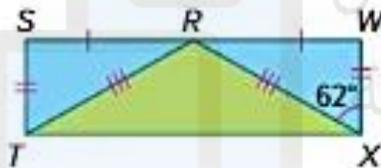


$\angle F \cong \angle H, \angle FGE \cong \angle HGJ, \angle E \cong \angle J,$   
 $\overline{FG} \cong \overline{HG}, \overline{FE} \cong \overline{HJ}, \overline{EG} \cong \overline{JG}$



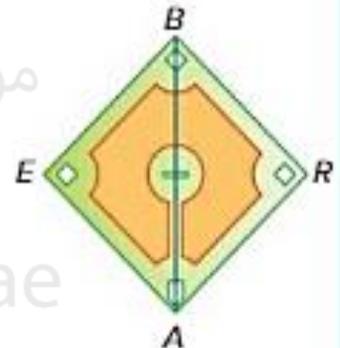
$\angle K \cong \angle Q, \angle M \cong \angle L, \angle R \cong \angle P, \overline{RM} \cong \overline{PL},$   
 $\overline{MK} \cong \overline{LQ}, \overline{KR} \cong \overline{QP}$

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)  **$62^\circ$**



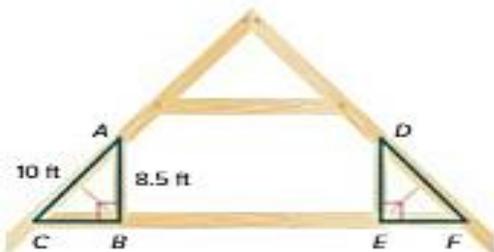
6. **Open Response** In the baseball diamond shown,  $\triangle BEA \cong \triangle ARB$ . The length of  $\overline{BE}$  is 90 feet. What is the length of  $\overline{AR}$ ? (Example 2)

**90 ft**



**Apply** \*indicates multi-step problem

- \*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  $EF$ ? Round to the nearest tenth. **5.3 ft**

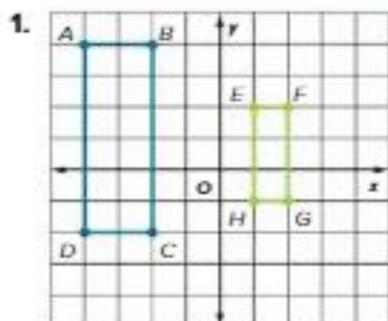


- \*8. In the city park map shown,  $\triangle DEF \cong \triangle JKL$ . The distance from  $D$  to  $E$  is 20 yards and the distance from  $D$  to  $F$  is 40 yards. What is the distance from  $K$  to  $L$ ? Round to the nearest tenth. **44.7 yd**

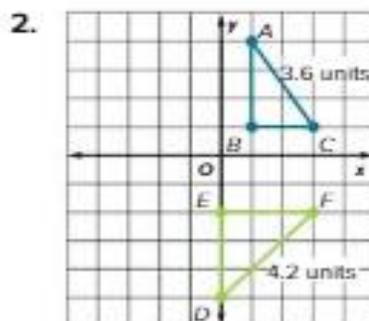


**Q3. Determine if two figures are similar by determining a sequence of rotations, reflection, Translation and dilation that map one similar figure onto another. 1-5 P(511)**

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)



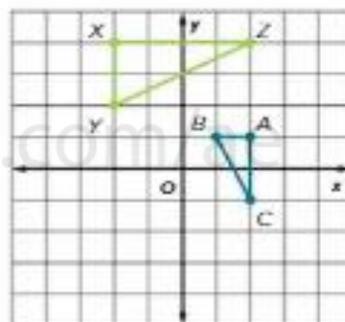
similar; Sample answer: Dilating rectangle  $ABCD$  using a scale factor of 0.5 and center of dilation at the origin, and then translating it 3 units to the right maps rectangle  $ABCD$  onto rectangle  $EFGH$ .



not similar; Sample answer: The ratios of the side lengths are not equal for all of the sides, so a dilation did not occur.

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

Sample answer: Dilate triangle  $ABC$  using a scale factor of 2 and center of dilation at the origin, and then rotate it  $90^\circ$  counterclockwise about the origin.



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)

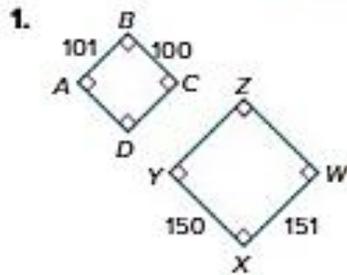
96 in. by 120 in.; yes

**Test Practice**

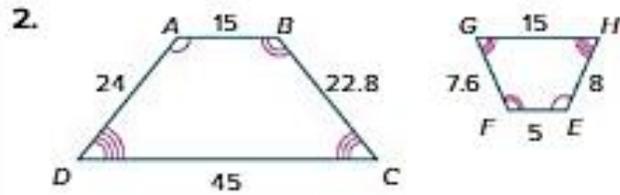
5. **Multiple Choice** Which sequence of transformations can be used to show that two figures are similar but not necessarily congruent?

- (A) dilation and rotation
- (B) translation and reflection
- (C) reflection and rotation
- (D) rotation and translation

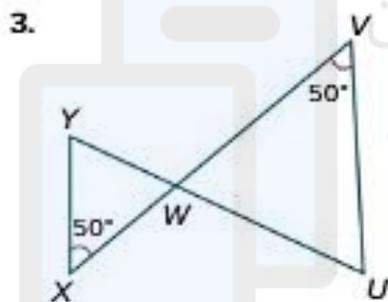
Determine whether each pair of polygons is similar. If so, write a similarity statement. (Examples 1 and 2)



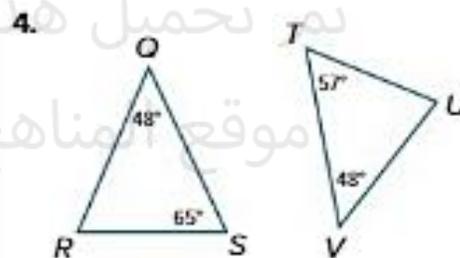
not similar



similar;  $ABCD \sim EFGH$

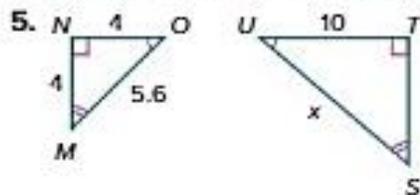


similar;  $\triangle YWX \sim \triangle UWV$

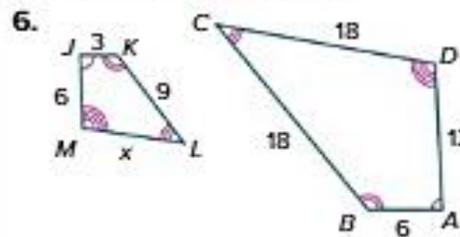


not similar

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



14 units

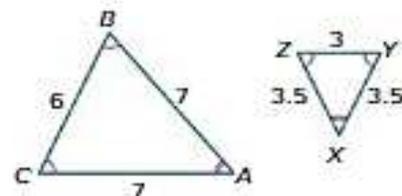


9 units

Test Practice

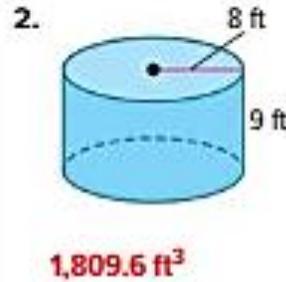
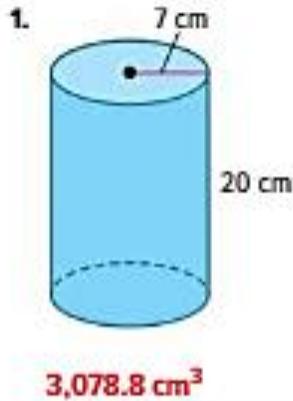
7. **Multiselect** Which of the following is true about  $\triangle ABC$  and  $\triangle XYZ$ ? Select all that apply.

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

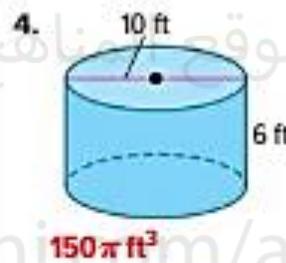
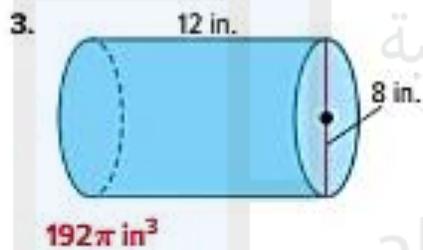


Q5. Use the formula for the volume of a cylinder to find the volume of a cylinder given its. 1-7 P(541)  
Diameter or radius and the height.

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  $\pi$ . (Example 2)



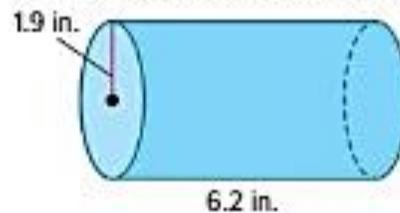
5. A wooden toy block is in the shape of a cylinder. The toy block has a height of 4 inches and a diameter of 3 inches. How much does the toy block weigh if 1 cubic inch of wood weighs 0.55 ounce? Round to the nearest tenth. (Example 3)
- 15.6 ounces**

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.

**18,472.6 in<sup>3</sup>**

### Test Practice

7. Multiple Choice What is the volume of the cylinder shown? (Use 3.14 for  $\pi$ )

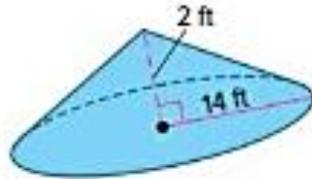


- (A) 22.382 in<sup>3</sup>  
(B) 70.279 in<sup>3</sup>  
(C) 73.036 in<sup>3</sup>  
(D) 229.333 in<sup>3</sup>

Q6. Use the formula for the volume of the cone to find the volume of the cone given its Diameter or radius and the height. 1-8 P(549)  
Diameter or radius and the height.

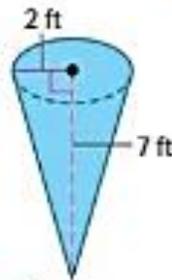
Find the volume of each cone. Express your answer in terms of  $\pi$ . (Example 1)

1.



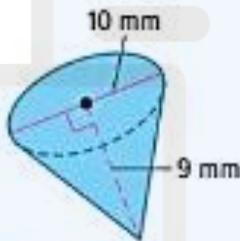
$$130\frac{2}{3}\pi \text{ ft}^3$$

2.



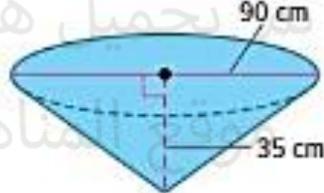
$$9\frac{1}{3}\pi \text{ ft}^3$$

3.



$$75\pi \text{ mm}^3$$

4.



$$23,625\pi \text{ cm}^3$$

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)

$$19.3 \text{ in}^3$$

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)

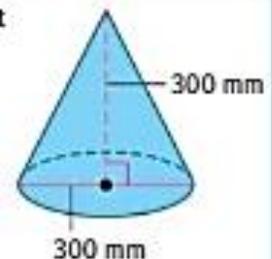
$$942.5 \text{ cm}^3$$

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)

$$42.5 \text{ in}^3$$

### Test Practice

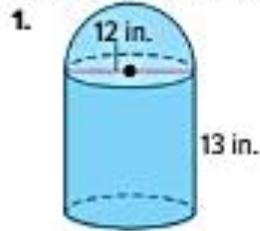
8. Multiple Choice What is the volume of the cone shown? (Use 3.14 for  $\pi$ )



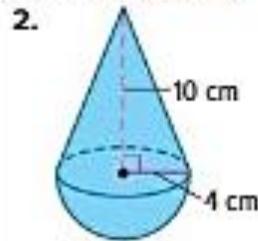
- A 7,068,583.5  $\text{mm}^3$
- B 14,137,166.9  $\text{mm}^3$
- C 21,205,750.4  $\text{mm}^3$
- D 229.33304  $\text{mm}^3$

Q7. Use the volume of the composite figure by decomposing into cubes, cones, cylinders, spheres and using the known volume formulas for these figures. 1-7 P(573)  
 And spheres and using the known volume formulas for these figures.

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

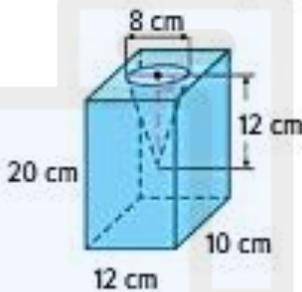


**1,922.7 in<sup>3</sup>**



**301.6 cm<sup>3</sup>**

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



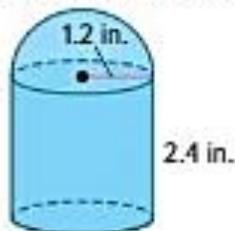
**2,198.9 cm<sup>3</sup>**

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



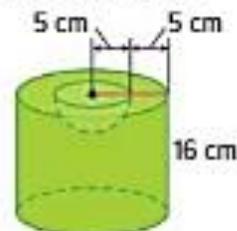
**15,262.6 mm<sup>3</sup>**

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



**14.5 in<sup>3</sup>**

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

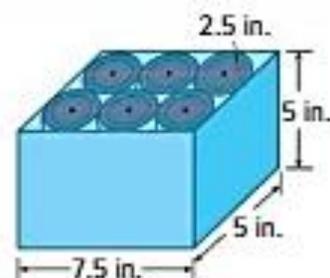


**4,764.7 cm<sup>3</sup>**

**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.

**78.5% or 78.6%**



**Q8. Use a set of bivariate data to construct a scatter plot and describe the association as 1-3 P(589) Positive or negative and as linear or non linear.**

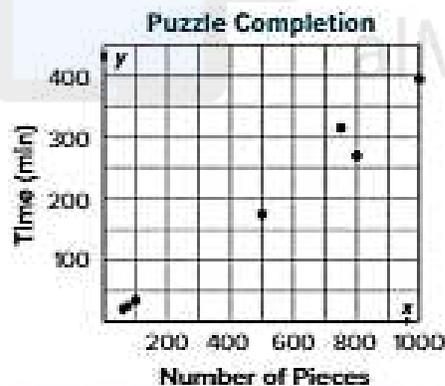
1. The table shows the average points scored per game by an NBA player in the first ten seasons of his career. Construct a scatter plot of the data. (Example 1)

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

Sample answer:



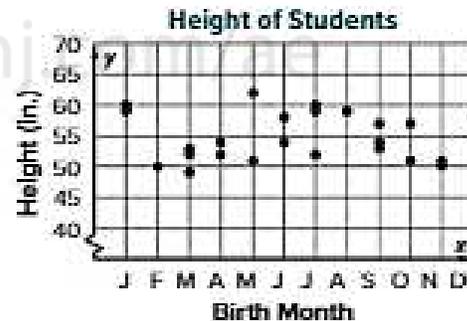
2. The scatter plot shows the relationship between the number of pieces in a jigsaw puzzle and the number of minutes that are recommended to complete the puzzle. Interpret the scatter plot. (Example 2)



**Sample answer:** As the number of pieces increases, time increases, so the scatter plot shows a positive association. The association is linear. There is one cluster and no outliers.

### 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)



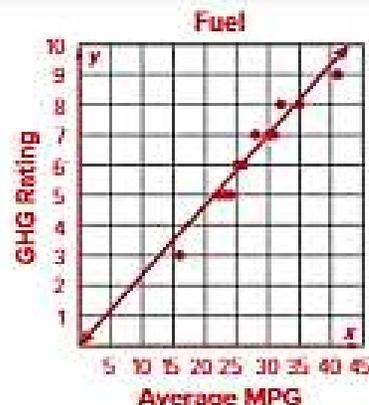
- (A) As the months progress, the heights of the students increase. There is a positive, linear association. There are no clusters or outliers.
- (B) The height of a student does not depend on their birth month. The scatter plot shows no association.
- (C) As the months progress, the heights of the students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

**Q9. 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. 1-4 P(597)**

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)

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

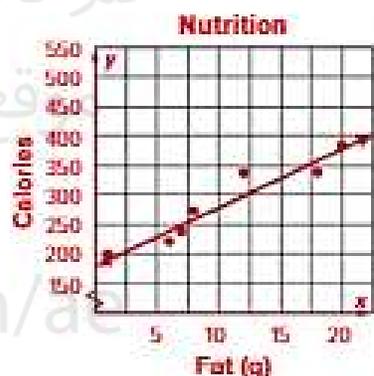
Sample answer: Since most of the points lie close to the line, the model is a good fit.



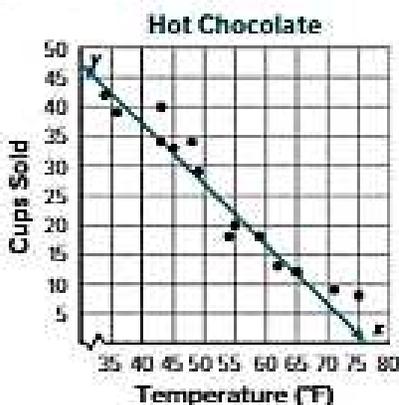
2. The table shows the fat and Calorie content for several snack foods. Construct a scatter plot. Then draw and assess a line that seems to represent the data. (Example 1)

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

Sample answer: Since most of the points lie close to the line, the model is a good fit.

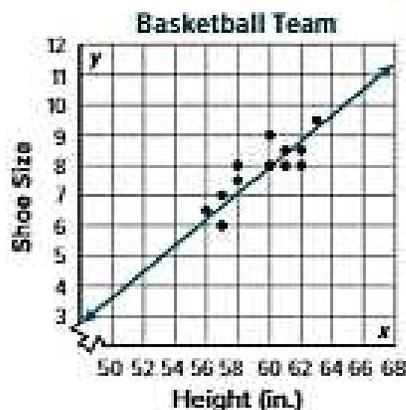


3. The scatter plot shows the number of cups of hot chocolate sold at a football game and the average temperature during the game. Use the line of fit to make a conjecture about the number of cups of hot chocolate sold if the average temperature is 50°F. (Example 2)



Sample answer: 27 cups of hot chocolate

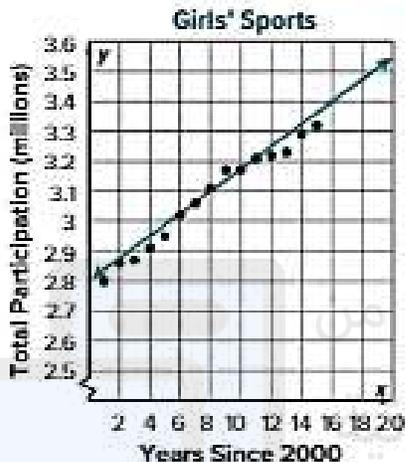
4. The scatter plot shows the height and shoe size of the players on the boys' basketball team. Use the line of fit to make a conjecture about the shoe size of a boy on the team that is 59 inches tall. (Example 2)



Sample answer: 7.5

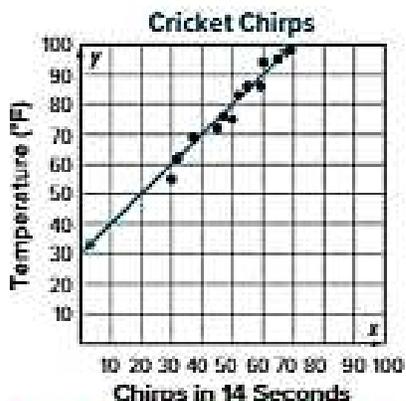
Q10. Find the equation of a line that closely fits the data and predict values that are not Present in the original data set. 1-4 P(607)

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)



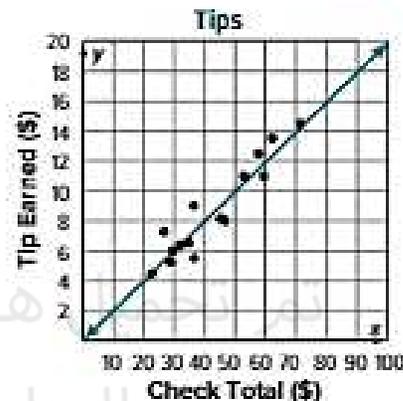
Sample answer:  $y = 0.0375x + 2.8$ ; The number of girls participating in high school sports increases by about 37,500 girls every year. In 2000, about 2.8 million girls participated in high school sports.

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)



Sample answer:  $y = x + 30$ ; 70 degrees

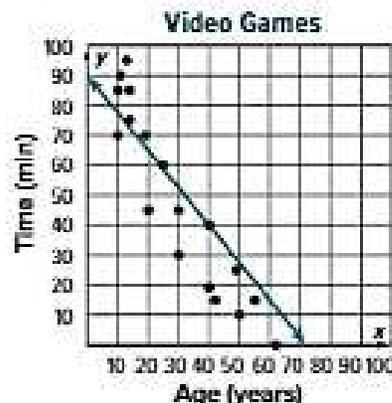
2. The scatter plot shows the tips different restaurant servers earned one night. Write an equation in slope-intercept form for the line of fit that is drawn. Then interpret the slope and y-intercept. (Example 1)



Sample answer:  $y = 0.2x$ ; The tip increases by about \$0.20 for every dollar in the check. The y-intercept of 0 indicates that for a check of \$0, a server would earn \$0.

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)  $y = -1.25x + 90$

Q11. Please see question 1.

1-6 P(491-492)

Q12. Please see question 3.

1-5 P(511)

Q13. Please see question 2.

1-6 P(499)

Q14. Please see question 5.

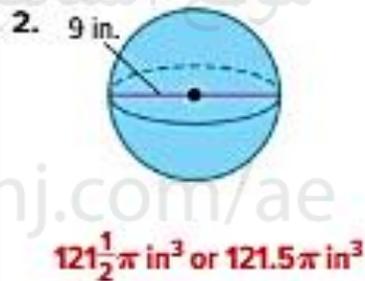
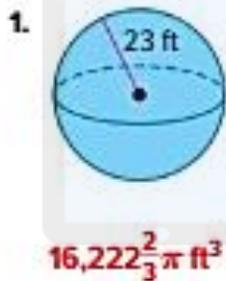
1-7 P(541)

Q15. Please see question 6.

1-8 P(549)

Q16. Use the formula for the volume of sphere or hemisphere to find the volume of the Figure given its radius or diameter. 1-8 P(557)

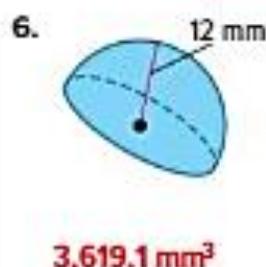
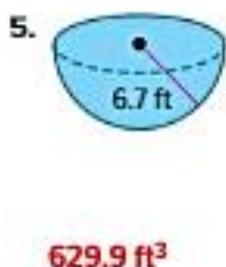
Find the volume of each sphere. Express your answer in terms of  $\pi$ . (Example 1)



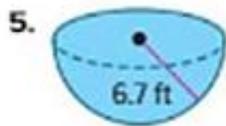
3. A necklace has a single spherical pearl with a radius of 2.1 millimeters. What is the volume of the pearl? Round to the nearest tenth. (Example 2)  
 $38.8 \text{ mm}^3$

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)  
 $44.7 \text{ seconds}$

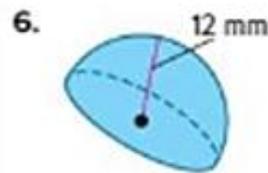
Find the volume of each hemisphere. Round to the nearest tenth. (Example 4)



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



**629.9 ft<sup>3</sup>**



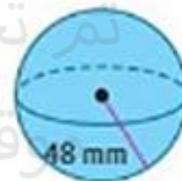
**3,619.1 mm<sup>3</sup>**

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.

**1.8 mm<sup>3</sup>**

### Test Practice

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



**463,011.84 mm<sup>3</sup>**

**Q17. Use volume formulas to solve for missing dimensions in cones, cylinders, and spheres. 1-8 P(565)**

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

**2 ft**

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)

**13 cm**

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

**12 ft**

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

**21 mm**

5. Find the radius of a sphere with a volume of  $26,244\pi$  cubic inches. (Example 2)

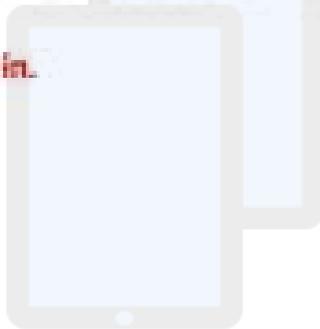
**27 in.**

6. The volume of a sphere is  $4,500\pi$  cubic yards. What is the radius of the sphere? (Example 2)

**15 yd**

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.

**5.4 in.**



**Test Practice**

8. **Equation Editor** The volume of a sphere is  $\frac{1372}{3}\pi$  cubic inches. Find the diameter of the sphere, in inches.

14



**Q18. Construct and interpret a two way table using a relative frequency.**

**1-3 P(617)**

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)

	<b>Math Club</b>	<b>No Math Club</b>	<b>Total</b>
<b>Chess Club</b>	<b>8</b>	<b>15</b>	<b>23</b>
<b>No Chess Club</b>	<b>11</b>	<b>10</b>	<b>21</b>
<b>Total</b>	<b>19</b>	<b>25</b>	<b>44</b>

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 <b>0.40</b>	45 <b>0.60</b>	75 <b>1.00</b>
8th Graders	51 <b>0.67</b>	25 <b>0.33</b>	76 <b>1.00</b>
Total	81	70	151

See table for row relative frequencies; Sample answer: Eighth graders are more likely than seventh grades to buy their lunch because  $0.67 > 0.40$ .

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 <b>0.56</b>	84 <b>0.67</b>	194
No Bus	85 <b>0.44</b>	42 <b>0.33</b>	127
Total	195 <b>1.00</b>	126 <b>1.00</b>	321

See table for column relative frequencies; Sample answer: Male students are more likely than female students to not ride the bus because  $0.44 > 0.33$ .

Q19. Use relative frequency to determine if an association exist between categories in a Two way table. 1-3 P(627)

1. The two-way table shows the number of seventh and eighth grade students that plan on attending the school dance. Find the row relative frequencies. Then determine if the data suggest an association between the categories. Explain your reasoning. (Example 1)

	Seventh	Eighth	Total
Attending	80; <b>0.37</b>	138; <b>0.63</b>	218; <b>1.00</b>
Not Attending	105; <b>0.52</b>	97; <b>0.48</b>	202; <b>1.00</b>
Total	185	235	420

Sample answer: The data suggest that there is an association between attendance and grade, because the relative frequencies are different. A 7th grade student chosen at random is more likely to not attend the dance as to attend.

2. The two-way table shows the results of a survey about two possible new art classes to be offered at the community center. Find the column relative frequencies. Then determine if the data suggest an association between the categories. Explain your reasoning. (Example 2)

	Pottery	Photography	Total
Under 30	43; <b>0.39</b>	86; <b>0.61</b>	129
30 and Older	66; <b>0.61</b>	55; <b>0.39</b>	121
Total	109; <b>1.00</b>	141; <b>1.00</b>	250

**Sample answer:** The data suggest an association between age and class interest, because the relative frequencies are different. A person chosen at random that is 30 or older is less likely to choose photography than pottery.

### Test Practice

3. **Multiple Choice** The two-way table shows the number of middle school and high school students that use social media.

	Social Media	No Social Media	Total
Middle School	410	815	1,225
High School	1,310	440	1,750
Total	1,720	1,255	2,975

Based on the relative frequencies, which one of the following is not true?

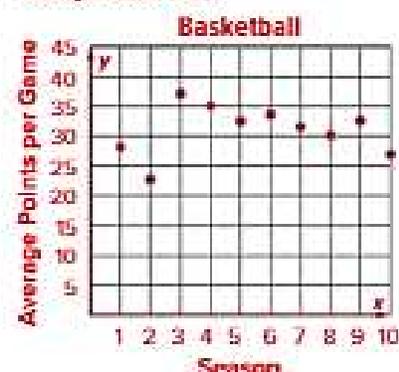
- (A) A student that is chosen at random that uses social media is more likely to be a middle school student than a high school student.
- (B) A student that is chosen at random that does not use social media is more likely to be a middle school student than a high school student.
- (C) A middle school student that is chosen at random is less likely to use social media.

**Q20. Use a set of bivariate data to construct a scatter plot and describe the association as 1-4 P(589-590) Positive or negative and as linear or non linear.**

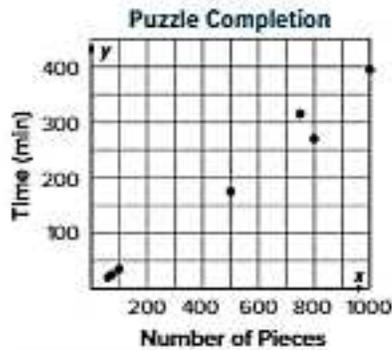
1. The table shows the average points scored per game by an NBA player in the first ten seasons of his career. Construct a scatter plot of the data. (Example 1)

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

**Sample answer:**



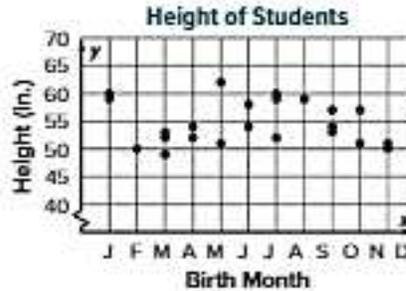
2. The scatter plot shows the relationship between the number of pieces in a jigsaw puzzle and the number of minutes that are recommended to complete the puzzle. Interpret the scatter plot. (Example 2)



Sample answer: As the number of pieces increases, time increases, so the scatter plot shows a positive association. The association is linear. There is one cluster and no outliers.

### 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.

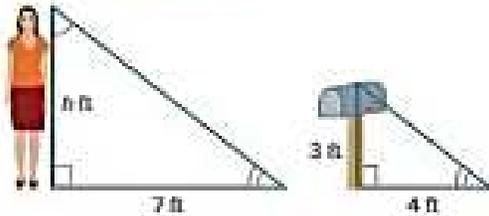
### Apply \*indicates multi-step problem

- \*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.

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

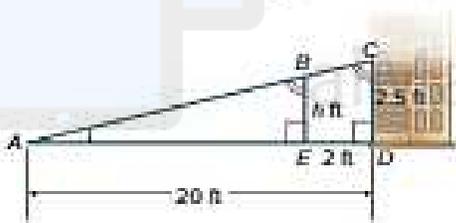
Sample answer: As the number of days missed increases, the semester grade decreases. Therefore, the scatter plot shows a negative association.

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)



5.25 ft

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)

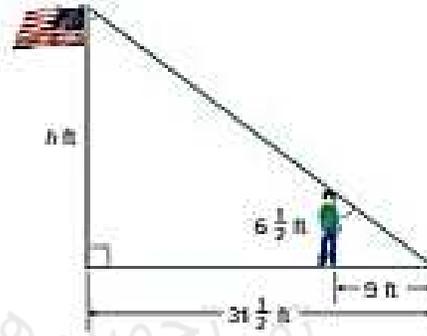


2.25 ft

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?

20 ft

2. At the same time a  $6\frac{1}{2}$ -foot tall teacher casts a 9-foot shadow, a nearby flagpole casts a  $31\frac{1}{3}$ -foot shadow. How tall is the flagpole? (Example 1)



$22\frac{3}{4}$  ft

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 3)



21.4 m

### Test Practice

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.

Objed	Height of Object (ft)	Shadow Length (ft)
Emma	3.5	5.25
Statue	38	57

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

2 ft

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)

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

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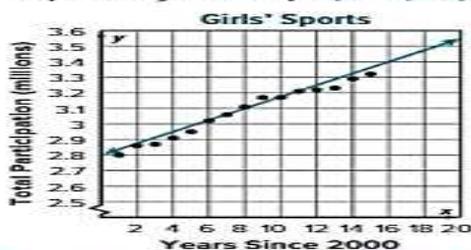
5. Find the radius of a sphere with a volume of  $26,244\pi$  cubic inches. (Example 3)

27 in.

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

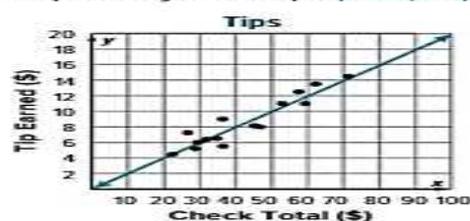
15 yd

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Sample answer:  $y = 0.0375x + 2.8$ ; The number of girls participating in high school sports increases by about 37,500 girls every year. In 2000, about 2.8 million girls participated in high school sports.

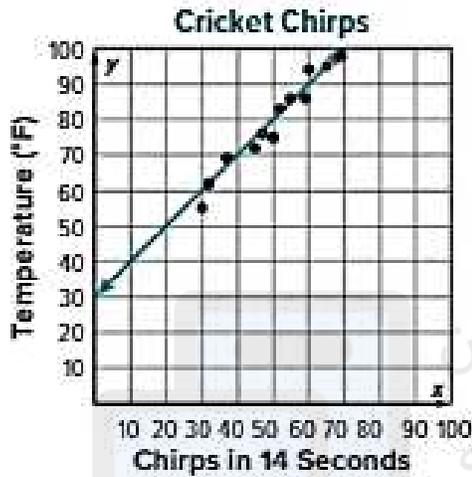
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Sample answer:  $y = 0.2x$ ; The tip increases by about \$0.20 for every dollar in the check. The y-intercept of 0 indicates that for a check of \$0, a server would earn \$0.

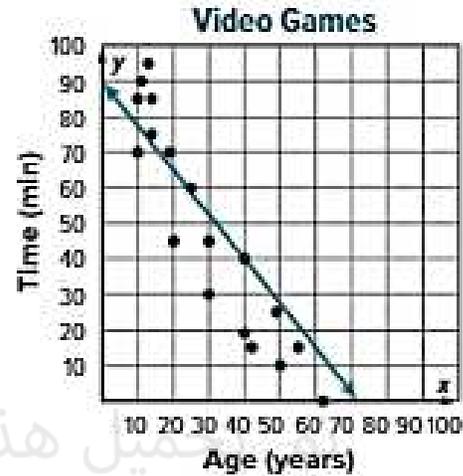
**Test Practice**

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Sample answer:  $y = x + 30$ ; 70 degrees

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)  $y = -1.25x + 90$

Q24-25. Undisclosed questions.