

# ***NORTH THURSTON PUBLIC SCHOOLS***



## **END OF COURSE**

## **GEOMETRY**

## **PRACTICE TEST**

Name: \_\_\_\_\_

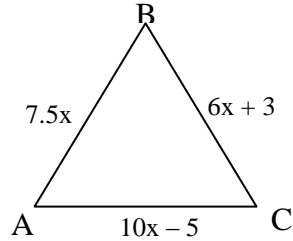
Date: \_\_\_\_\_

**\*\* Video Tutorial Edition\*\***

Most questions below are linked to a video tutorial on the internet. To access a video, hold the control button while clicking on the link of the video you wish to watch.

**Day 1**

1. Determine the value of  $x$  if  $\triangle ABC$  is equilateral.



Write your answer on the line.

What is the value of  $x$ ? \_\_\_\_\_

(Related Tutorial Video: [Video 1](#))

2. Write the converse of the conditional statement. Determine if the converse is true or false. If it is false, find a counterexample.

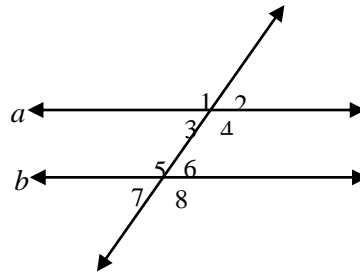
If you have a dog, then you are a pet owner.

- 0 A. If you are a pet owner, then you have a dog. True  
0 B. A dog owner owns a pet. True  
0 C. If you are a pet owner, then you have a dog. False, you could have a hamster.  
0 D. If you have a dog, then you are a pet owner. False, you could have a hamster.

(Related Tutorial Video: [Video 1](#))

3. Given  $a \parallel b$ , determine which equation must be true.

- 0 A.  $m\angle 1 + m\angle 5 = 180$   
0 B.  $m\angle 3 + m\angle 6 = 180$   
0 C.  $m\angle 2 + m\angle 7 = 180$   
0 D.  $m\angle 4 + m\angle 6 = 180$

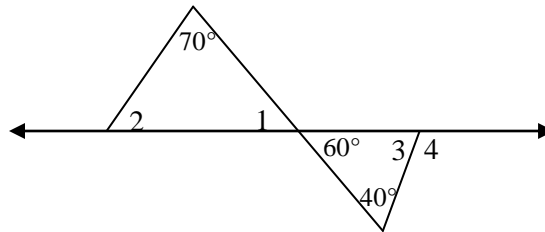


(Related Tutorial Videos: [Video 1](#), [Video 2](#), [Video 3](#))

**Day 2**

4. Determine measure of angle 2.

Write your answer on the line.



What is the measure of angle 2? \_\_\_\_\_ degrees

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

5.  $\triangle DEF$  has vertices  $D(4, 1)$ ,  $E(2, -1)$ , and  $F(-2, -1)$ . Classify  $\triangle DEF$  based on its sides.

- 0 A. equilateral
- 0 B. isosceles
- 0 C. scalene
- 0 D. right

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

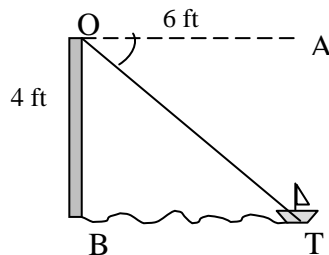
6. Determine the equation of a line through the point  $(3, -4)$  that is perpendicular to the line  $y = 3x + 7$ .

- 0 A.  $y = 3x - 13$
- 0 B.  $y = -3x + 5$
- 0 C.  $y = -\frac{1}{3}x - 3$
- 0 D.  $y = -\frac{1}{3}x - 5$

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

### Day 3

7. Joe and Sara were standing on a pier sailing a toy sail boat. The boat was 6 feet from the base of the pier and the pier was 4 feet above the water.



Determine the angle of depression from the pier to the toy sail boat.

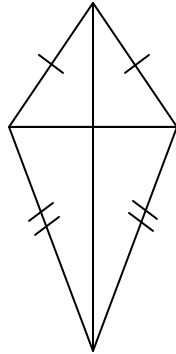
Show your work using words, numbers and/or diagrams.

What is the angle of depression from the pier to the sail boat? \_\_\_\_\_ degrees

(Related Tutorial Video: [Video 1](#), [Video 2](#), [Video 3](#))

8. Joanna's teacher said "The diagonals of a square bisect each other."

Joanna drew this figure and said "The diagonals of this figure bisect each other, so it must be a square."



Joanna made an error in her mathematical argument. What is the error?

- A. There is no error. The figure Joanna drew is a square.
- B. In the figure Joanna drew, the diagonals do not bisect each other.
- C. Joanna used the converse of the teacher's statement and the converse is false.
- D. Joanna's teachers statement is false. The diagonals of a square do not bisect each other.

(Related Tutorial Video: [Video 1](#))

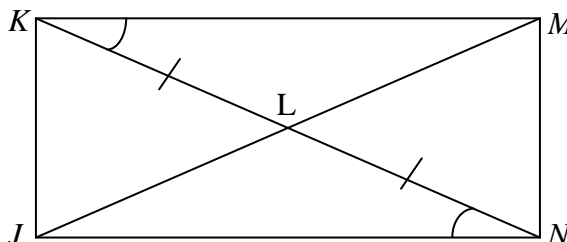
9. Determine the midpoint of  $\overline{JK}$ , where  $J(-1, 2)$  and  $K(6, 8)$ .

- A.  $(3\frac{1}{2}, 5)$
- B.  $(2\frac{1}{2}, 5)$
- C.  $(3\frac{1}{2}, 3)$
- D.  $(2\frac{1}{2}, 3)$

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

Day 4

10. Look at the diagram.

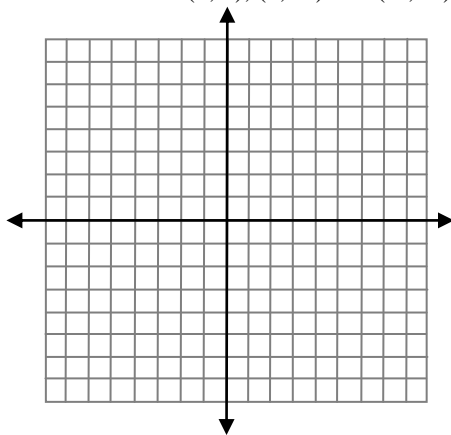


What theorem or postulate can you use to prove  $\triangle KLM \cong \triangle NLJ$ ?

- 0 A. Corresponding Parts of Congruent Triangles are Congruent
- 0 B. Side-Angle-Side Congruence
- 0 C. Angle-Side-Angle Congruence
- 0 D. Side-Side-Side Congruence

(Related Tutorial Video: [Video 1](#), [Video 2](#), [Video 3](#))

11. Three vertices of a square have coordinates (3, 1), (4, -4) and (-1, -5). The diagonals of the square intersect at point  $Q$ .



Determine the coordinates of point  $Q$ .

You may use the blank grid to help determine the solution.

Write your answer on the line.

<b>What are the coordinates of point <math>Q</math>? ( ____ , ____ )</b>
--

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

12. 3, 5, 7, and 11 are prime numbers. 4, 6, 8, 9, and 10 are composite numbers. Tiana makes the conjecture that prime numbers must be odd.  
Which statement is true?

- 0 A. This is an example of inductive reasoning and the conjecture is valid.
- 0 B. This is an example of inductive reasoning and the conjecture is not valid.
- 0 C. This is an example of deductive reasoning and the conjecture is valid.
- 0 D. This is an example of deductive reasoning and the conjecture is not valid.

(Related Tutorial Videos: [Video 1](#), [Video 2](#), [Video 3](#))

### Day 5

13. One leg of a  $45^\circ - 45^\circ - 90^\circ$  triangle is 8 cm long.

Determine the length of the hypotenuse.

- 0 A.  $8\sqrt{3}$
- 0 B.  $8\sqrt{2}$
- 0 C.  $4\sqrt{2}$
- 0 D. 16

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

14. Look at the conditional statement.

“If an angle measures  $30^\circ$ , then it is acute”

Which statement is the converse?

- 0 A. If an angle does not measure  $30^\circ$ , then it is not acute.
- 0 B. If an angle is not acute, then it does not measure  $30^\circ$ .
- 0 C. If an angle is acute, then it measures  $30^\circ$ .
- 0 D. If an angle measures  $30^\circ$ , then it is not acute.

(Related Tutorial Video: *See question 2*)

15. Which equation represents the line through the points  $(-1, -2)$  and  $(2, 7)$ ?

- 0 A.  $y = 3x + 1$
- 0 B.  $y - 2 = 3(x - 1)$
- 0 C.  $y - 7 = -3(x - 2)$
- 0 D.  $x - 3y = 5$

(Related Tutorial Videos: [Video 1](#), [Video 2](#), [Video 3](#))

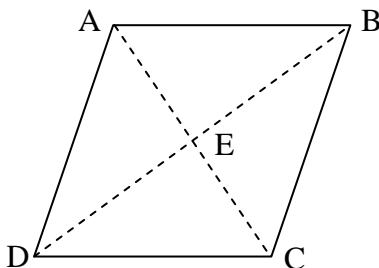
**Day 6**

16. Which statement is true about all parallelograms?

- 0 A. The diagonals bisect pairs of opposite angles.
- 0 B. The diagonals are congruent.
- 0 C. The diagonals bisect each other.
- 0 D. The diagonals are perpendicular

(Related Tutorial Video: [Video 1](#))

17. Quadrilateral  $ABCD$  is a rhombus and  $m\angle BCE = 50^\circ$ .



Determine the  $m\angle EBC$ .

Write your answer on the line.

<b>What is the <math>m\angle EBC</math>? _____ °</b>
--

(Related Tutorial Videos: [Video 1](#), [Video 2](#) )

18. Look at the conditional statement.

“If a figure is a pentagon, then it has five sides”

Which statement is the inverse?

- 0 A. If a figure has five sides, then it is a pentagon.
- 0 B. If a figure is a pentagon, then it does not have five sides.
- 0 C. If a figure does not have five sides, then it is not a pentagon.
- 0 D. If a figure is not a pentagon, then it does not have five sides.

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

**Day 7**

19. Triangle  $JKE$  is an obtuse isosceles triangle with  $m\angle E = 10^\circ$  and  $\overline{KE} > \overline{JK}$ .

What is the  $m\angle J$ ?

- 0 A.  $170^\circ$
- 0 B.  $160^\circ$
- 0 C.  $85^\circ$
- 0 D.  $10^\circ$

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

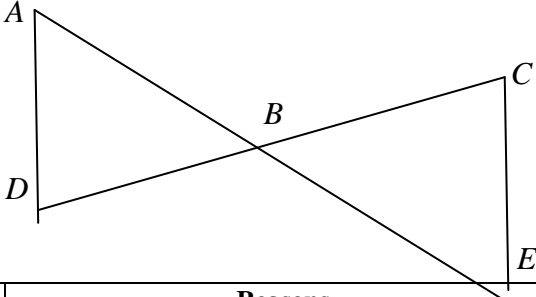
20.

A proof is shown.

Fill in the blanks for steps 5 and 6 to complete the proof.

Given: B is the midpoint of  $\overline{AE}$ .  
 B is the midpoint of  $\overline{CD}$ .

Prove:  $\triangle ABD \cong \triangle EBC$ .



Statements	Reasons
1. B is the midpoint of $\overline{AE}$ .	1. Given
2. $\overline{AB} \cong \overline{BE}$	2. Definition of midpoint
3. B is the midpoint of $\overline{CD}$ .	3. Given
4. $\overline{CB} \cong \overline{BD}$	4. Definition of midpoint
5.	5. Vertical Angles Theorem
6. $\triangle ABD \cong \triangle EBC$	6.

21. Which ordered pair is the midpoint of the line segment with endpoints (2,-5) and (-6, 4)?

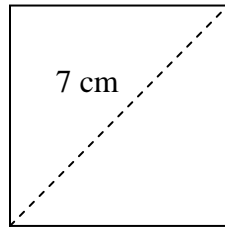
- 0 A. (-4, -1)
- 0 B.  $(-4, -\frac{1}{2})$
- 0 C.  $(-2, -\frac{1}{2})$
- 0 D. (-2, -1)

(Related Tutorial Video: [See question 9](#))



**Day 8**

22. The diagonal of a square is 7 cm.



Determine the length of one side of the square.

- A.  $3\frac{1}{2}$
- B.  $7\sqrt{2}$
- C.  $\frac{7\sqrt{3}}{3}$
- D.  $\frac{7\sqrt{2}}{2}$

(Related Tutorial Videos: [Video 1](#), [Video 2](#), [Video 3](#))

23. Which statement is true?

- A. A postulate is accepted as true without proof.
- B. A theorem is accepted as true without proof.
- C. Definitions can never be used as reasons in a proof.
- D. Theorems can never be used as reasons in a proof.

(Related Tutorial Video: [Video 1](#))

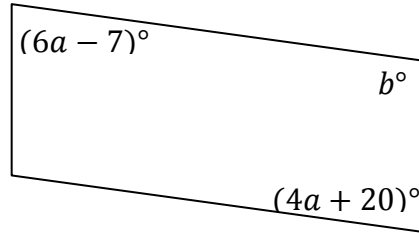
24. Two unique planes intersect. Which geometric term describes the intersection?

- A. line
- B. plane
- C. point
- D. segment

(Related Tutorial Video: [Video 1](#))

Day 9

25. Look at the diagram.

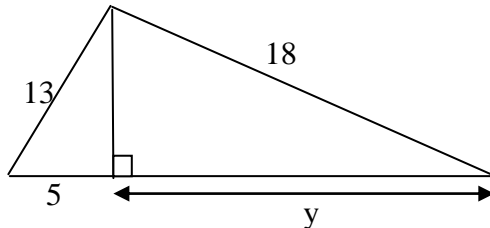


Determine the values for  $a$  and  $b$  that would make the quadrilateral a parallelogram.

- 0 A.  $a = 13.5, b = 166.5$
- 0 B.  $a = 16.7, b = 93.2$
- 0 C.  $a = 13.5, b = 106$
- 0 D.  $a = 16.7, b = 86.8$

(Related Tutorial Video: [See question 16](#))

26. Look at the triangle.



Determine the length of  $y$ . Express your answer in simplified radical form.

Write your answer on the line.

What is the length of  $y$ ? \_\_\_\_\_

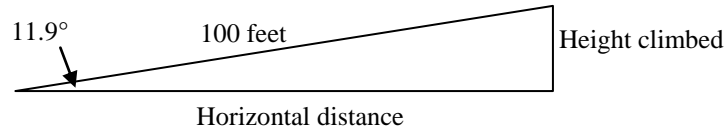
(Related Tutorial Video: [Video 1](#))

27. Lines  $l$ ,  $m$ , and  $n$  lie in the same plane. Line  $m$  is perpendicular to line  $l$ . Line  $n$  is perpendicular to line  $l$ . Which statement is true?

- 0 A. Line  $m$  and line  $n$  are perpendicular.
- 0 B. Line  $m$  and line  $n$  are parallel.
- 0 C. Line  $m$  and line  $n$  will intersect.
- 0 D. Line  $m$  and line  $n$  are skew

**Day 10**

28. While walking around Seattle, Mary climbed several steep streets. One of the steepest streets, Roy Street has a slope angle of  $11.9^\circ$  according to the tour guide. After walking 100 feet up the hill, she wanted to determine how high she had climbed.



Use a trigonometric ratio (sine, cosine, tangent) to determine how high Mary climbed.

Be sure to write the equation and show the steps you used to solve the equation. Round your answer to the nearest foot.

How high did Mary climb? \_\_\_\_\_

(Related Tutorial Videos: [See question 7](#), [Video 1](#))

29. Determine how many miles a person will run during a 5-kilometer race. Write your answer on the line.

$$1 \text{ km} \approx 0.62 \text{ mi}$$

How many miles will a person run during a 5-kilometer race? \_\_\_\_\_

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

30. Which statement is an example of inductive reasoning?
- 0 A. M is a midpoint of AB. Therefore  $AM = MB$ .
  - 0 B. Squares have equal sides. This figure has equal sides, therefore this figure is a square.
  - 0 C. The base angles of an isosceles triangle are equal. The base angles of this triangle are equal. Therefore, this triangle is isosceles.
  - 0 D. Triangular numbers have a pattern. 1, 3, 6, 10, and 15 are triangular numbers. Therefore, the next triangular number is 21.

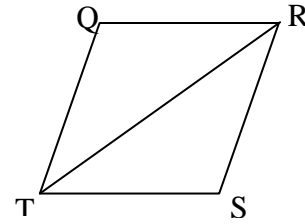
(Related Tutorial Videos: [See question 12](#))

**Day 11**

31. The rhombus  $QRST$  is made of two congruent triangles. Given  $m\angle QRS = 34^\circ$  determine the measure of  $\angle S$ .

What is the measure of  $\angle S$ ?

- 0 A.  $56^\circ$
- 0 B.  $73^\circ$
- 0 C.  $112^\circ$
- 0 D.  $146^\circ$



(Related Tutorial Videos: [Video 1](#))

32. Determine whether the conjecture is true or false. Give a counterexample for a false conjecture.

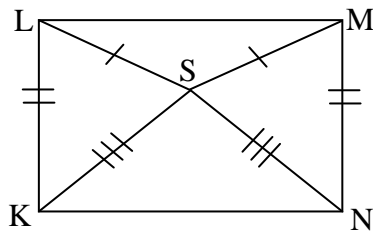
Given: points  $A$ ,  $B$ ,  $C$ , and  $D$

Conjecture:  $A$ ,  $B$ ,  $C$ , and  $D$  are coplanar

True or false? _____

(Related Tutorial Video: [Video 1](#))

33. Identify the congruent triangles in the diagram and write a congruence statement.

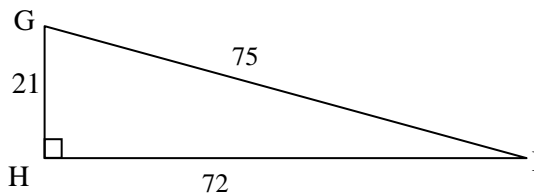


- 0 A.  $\triangle LSM \cong \triangle KSN$
- 0 B.  $\triangle LSK \cong \triangle MSN$
- 0 C.  $\triangle LKS \cong \triangle MSN$
- 0 D.  $\triangle LSK \cong \triangle NSM$

(Related Tutorial Video: [Video 1](#))

**Day 12**

34. Determine  $\cos I$  in  $\triangle GHI$ .



- 0 A.  $\frac{21}{72}$
- 0 B.  $\frac{21}{75}$
- 0 C.  $\frac{75}{72}$
- 0 D.  $\frac{72}{75}$

(Related Tutorial Video: [Video 1](#))

35. Write the contrapositive of the conditional statement. Determine if the contrapositive is true or false. If it is false, find a counterexample.

“Two angles measuring 180 degrees are supplementary”

- 0 A. Two angles not measuring 180 degrees are supplementary. True
- 0 B. More than two angles measuring 180 degrees are non-supplementary. True
- 0 C. Non-supplementary angles and not two angles measuring 180 degrees. True
- 0 D. Non-supplementary angles are two angles measuring 180 degrees. False; supplementary angles must measure 180 degree.

(Related Tutorial Videos: [See question 18](#))

36. Complete this chart.

Figure	# of edges $e$	# of faces $f$	# of vertices $v$	$f + v$
Triangular Pyramid	6	4	4	8
Triangular Prism				
Square Pyramid				
Cube				
Hexagonal Pyramid				
Hexagonal Prism				

(Related Tutorial Videos: [Video 1](#), [Pyramid Definition](#), [Prism Definition](#))

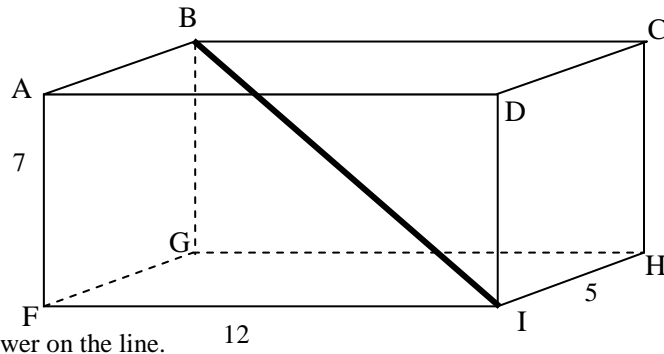
**Day 13**

37. Determine which statement is a property of all rectangles.

- 0 A. Four congruent sides.
- 0 B. Diagonals bisect the angles.
- 0 C. Diagonals are perpendicular.
- 0 D. Four right angles.

(Related Tutorial Video: [Video 1](#), [Video 2](#))

38. The figure is a rectangular prism with dimensions 12 inches long, 5 inches wide and 7 inches tall. Determine the length of  $\overline{BI}$ .



Write your answer on the line.

What is the length of  $\overline{BI}$ ? \_\_\_\_\_

(Related Tutorial Video: [Video 1](#))

39. Given  $B(-4, -6)$ , determine which reflection would result in  $B'(6, 4)$ .

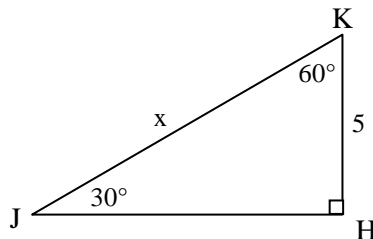
- 0 A. Reflected over the x-axis.
- 0 B. Reflected over the y-axis.
- 0 C. Reflected over the line  $y = -x$ .
- 0 D. Reflected over the line  $y = x$ .

(Related Tutorial Video: [Video 1](#))

**Day 14**

40. Determine the exact length of  $x$  in  $\triangle HJK$ .

- 0 A.  $5\sqrt{2}$
- 0 B.  $5\sqrt{3}$
- 0 C. 10
- 0 D. 15



(Related Tutorial Videos: [Video 1](#), [Video 2](#))

41. If you are going 50 miles per hour, determine how many feet per second you are traveling.

Write your answer on the line.

How many feet per second are you traveling? _____
---

(Related Tutorial Videos: [See question 29](#))

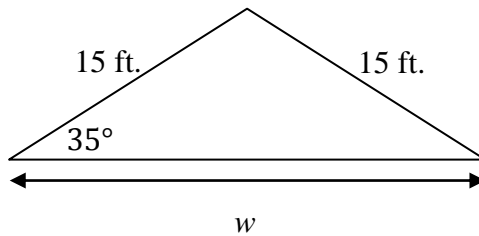
42. The ratio of a pair of corresponding sides in two similar triangles is 5:3. The area of the smaller triangle is  $108 \text{ in}^2$ . What is the area of the larger triangle?

- 0 A.  $300 \text{ in}^2$
- 0 B.  $180 \text{ in}^2$
- 0 C.  $64.8 \text{ in}^2$
- 0 D.  $38.9 \text{ in}^2$

(Related Tutorial Videos: [Video 1](#))

### Day 15

43. Jessie is working on the roof of her house. She has measured the angle of the roof and the length of the roof. Determine the width of the house,  $w$ .



- 0 A. 18.31 ft.
- 0 B. 24.57 ft.
- 0 C. 12.29 ft.
- 0 D. 26.15 ft.

(Related Tutorial Video: See question 28, [Video 1](#), [Video 2](#))

44. The segment bisector is the midpoint.

Write the inverse.

---

---

---

Determine if the statement is true or false. \_\_\_\_\_

If it is false, write a counterexample.

---

---

---

(Related Tutorial Video: *See question 18*)

45.  $\triangle RST$  has vertices  $R(3, 3)$ ,  $S(6, -2)$ , and  $T(0, -2)$ . Classify  $\triangle RST$  based on its sides.

- A. isosceles
- B. scalene
- C. equilateral
- D. right

(Related Tutorial Videos: *See question 5*)



**Day 16**

46. Look at the given information for quadrilateral  $ABCD$ .

$$\begin{array}{l} \overline{AB} \parallel \overline{CD} \\ \overline{AC} \cong \overline{BD} \\ \overline{AC} \text{ is not parallel to } \overline{BD} \end{array}$$

- Draw and label a shape that satisfies all of the given information.
- Determine the most specific name for the shape.

**What is the most specific name for quadrilateral  $ABCD$ ? \_\_\_\_\_**

(Related Tutorial Video: [Video 1](#))

47. Martina has a calculator box that has a volume of 29 cubic inches.

$$1 \text{ inch} = 2.54 \text{ centimeters}$$

Determine the volume of the calculator box to the nearest cubic centimeter.

Write your answer on the line.

**What is the volume of the calculator box to the nearest cubic centimeter? \_\_\_\_\_**

(Related Tutorial Video: [Video 1](#))

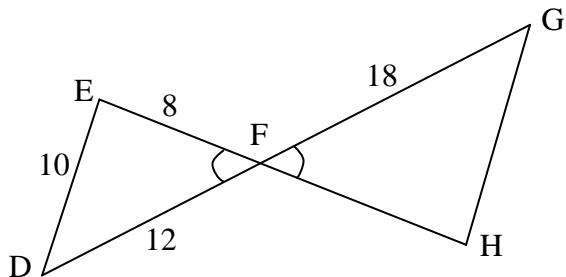
48. Determine the image of  $Y(-4, 7)$  under the translation of  $(x, y) \rightarrow (x + 3, y - 5)$ .

- 0 A.  $Y(-1, 2)$
- 0 B.  $Y(-1, 12)$
- 0 C.  $Y(-7, 2)$
- 0 D.  $Y(-7, 12)$

(Related Tutorial Video: [Video 1](#))

Day 17

49. Look at the figure.

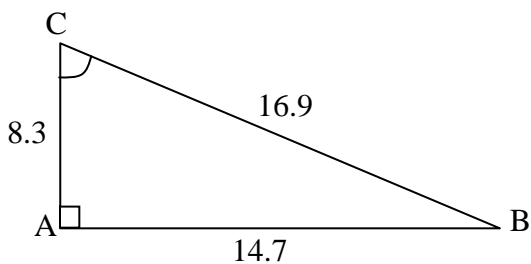


What additional information do you need to show the triangles below are similar using the Side-Angle-Side Similarity Theorem?

- A.  $FH = 12$
- B.  $\angle E \cong \angle H$
- C.  $GH = 15$
- D.  $\angle D \cong \angle G$

(Related Tutorial Videos: [Video 1](#), [Video 2](#))

50. Find  $\sin C$  as a decimal rounded to the nearest hundredth.



- A. 0.49
- B.  $60.44^\circ$
- C.  $0.87^\circ$
- D. 0.87

(Related Tutorial Video: [Video 1](#))

51. Two similar figures have a ratio of volumes of 64:27. What is the ratio of similarity?

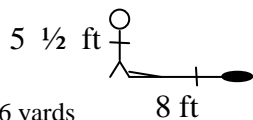
Write your answer on the line.

What is the ratio of similarity? _____
--

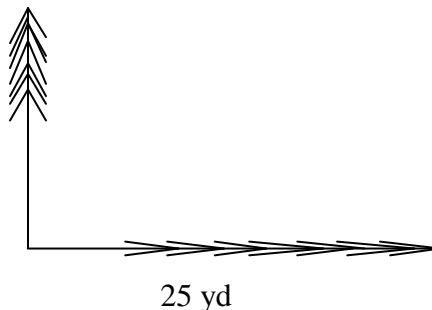
(Related Tutorial Video: [Video 1](#))

**Day 18**

52. Michael is  $5\frac{1}{2}$  feet tall. Michael measures his shadow as 8 feet long. A tree in his backyard has a shadow that is 25 yards long. How tall is the tree?

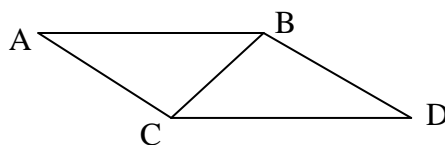


- A. 51.56 yards
- B. 17.19 feet
- C. 51.56 feet
- D. 36.36 yards



(Related Tutorial Video: [Video 1](#))

53. Look at the pair of triangles.



Which statement is true?

- A. The triangles are congruent.
- B. The triangles are similar but not congruent.
- C. The triangles are not similar or congruent.
- D. There is not enough information to determine similarity or congruence.

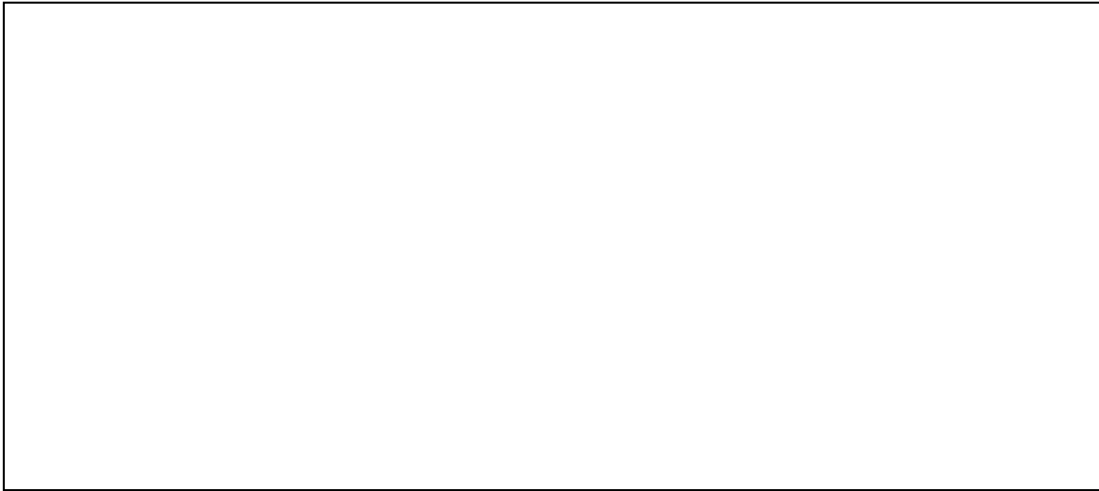
(Related tutorial Videos: *See question 10*)

54. Steven built a box for his vegetable garden in the shape of a rectangular prism. The volume of the vegetable garden was 24 cubic feet. He built another garden box that was two times longer and two times higher. He thinks the volume will be twice as much.

Explain why Steven is not correct.

54 cont.

If Steven wants his second garden box to have twice the volume, what should he do instead?

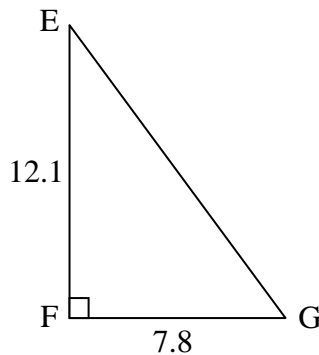


(Related Tutorial Video: [See question 51](#))

**Day 19**

55. To the nearest degree, what is  $m\angle G$ ?

- 0 A.  $2^\circ$
- 0 B.  $57^\circ$
- 0 C.  $50^\circ$
- 0 D.  $33^\circ$



(Related Tutorial Video: [Video 1](#), [See question 7](#))

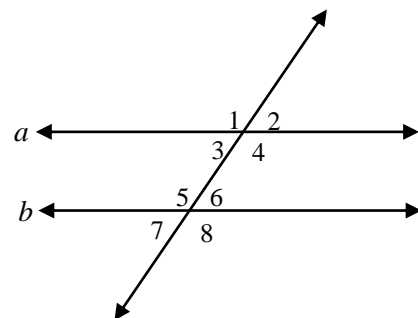
56.  $JKLM$  is an isosceles trapezoid with  $J(0, -1)$ ,  $K(-2, 3)$  and  $M(6, -1)$ . Determine the coordinates of  $L$ .

- 0 A.  $L(6, 1)$
- 0 B.  $L(9, 4)$
- 0 C.  $L(2, 3)$
- 0 D.  $L(8, 3)$

(Related Tutorial Video: [Video 1](#))

57. Given  $a \parallel b$ , determine which relationship must be true.

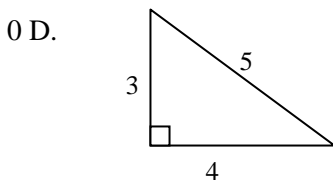
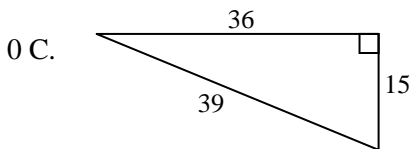
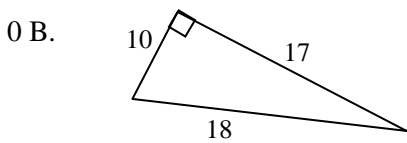
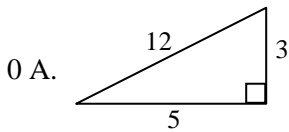
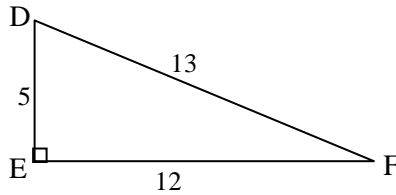
- 0 A.  $\angle 1$  and  $\angle 3$  are congruent.
- 0 B.  $\angle 2$  and  $\angle 8$  are supplementary.
- 0 C.  $\angle 4$  and  $\angle 5$  are similar.
- 0 D.  $\angle 3$  and  $\angle 7$  are complementary.



(Related Tutorial Video: [See question 3](#))

Day 20

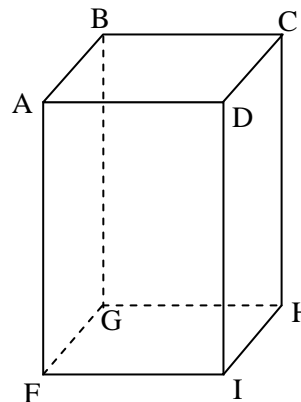
58. Determine which triangle is similar to  $\triangle DEF$ .



(Related Tutorial Videos: [Video 1](#), [Video 2](#))

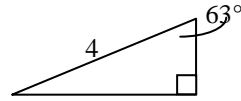
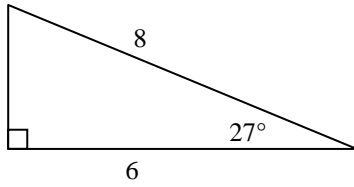
59. Name all segments skew to  $\overline{BC}$ .

- 0 A.  $\overline{FI}, \overline{AD}, \overline{FA}, \overline{DI}$
- 0 B.  $\overline{FG}, \overline{GH}, \overline{HI}, \overline{FI}$
- 0 C.  $\overline{CD}, \overline{AB}, \overline{BG}, \overline{CH}$
- 0 D.  $\overline{GF}, \overline{HI}, \overline{DI}, \overline{AF}$



(Related Tutorial Video: [Video 1](#))

60. Determine which theorem or postulate can be used to prove that these two triangles are similar.

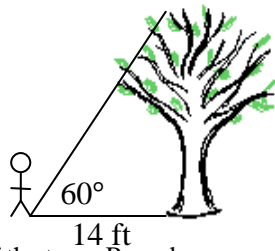


- 0 A. AA
- 0 B. SAS
- 0 C. SSA
- 0 D. SSS

(Related Tutorial Videos: [See question 58](#))

**Day 21**

61. Cody is standing 14 feet from the base of the tree. The top of the tree makes a  $60^\circ$  angle with the ground at the point where he is standing.



Determine the height of the tree. Round your answer to two decimal places.

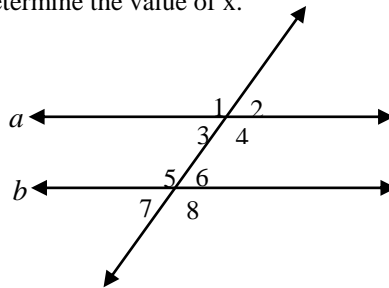
Write your answer on the line.

What is the height of the tree? \_\_\_\_\_ feet

(Related Tutorial Videos: See question 28, [Video 1](#))

62. Given  $a \parallel b$  and  $m \angle 3 = 5x + 10$  and  $m \angle 5 = 3x + 10$ , determine the value of  $x$ .

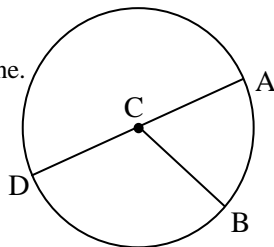
- 0 A. 110
- 0 B. 70
- 0 C. 20
- 0 D. 2.5



(Related Tutorial Videos: [See question 3](#))

63. In circle  $C$ ,  $m\widehat{AB} = 72$ . Determine  $m\angle BCD$ .

Write your answer on the line.



What is the  $m\angle BCD$ ? \_\_\_\_\_ degrees

(Related Tutorial Videos: [Video 1](#))

### Day 22

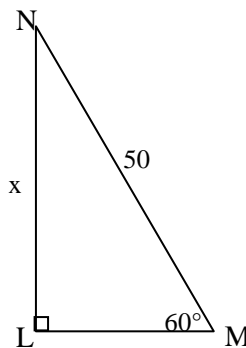
64. Determine which set of measures could represent the sides of a right triangle.

- 0 A. 2, 3, 4
- 0 B. 7, 11, 14
- 0 C. 8, 10, 12
- 0 D. 9, 12, 15

(Related Tutorial Video: [Video 1](#))

65. Determine the exact value of  $x$  in  $\triangle LMN$ .

- 0 A. 25
- 0 B.  $25\sqrt{2}$
- 0 C.  $25\sqrt{3}$
- 0 D. 100



(Related Tutorial Video: [See question 40](#))

66.  $\triangle RST$  has vertices  $R(3, 3)$ ,  $S(6, -2)$ , and  $T(0, -2)$ . Classify  $\triangle RST$  based on its sides.

- 0 A. isosceles
- 0 B. scalene
- 0 C. equilateral
- 0 D. right

(Related Tutorial Video: [See question 5](#))

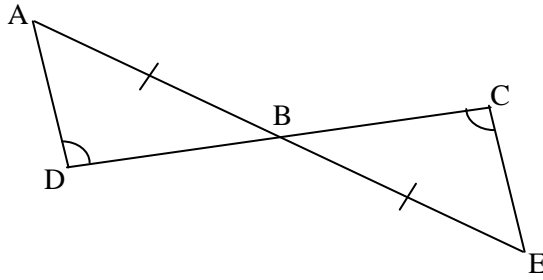
Day 23

67. In the diagram:

Given:  $\overline{AB} \cong \overline{EB}$

$\angle D \cong \angle C$

Prove:  $\triangle ABD \cong \triangle ECB$

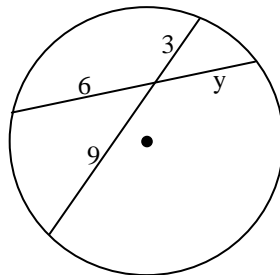


Proof:

(Related Tutorial Video: [See question 10](#))

68. Determine the value of  $y$ .

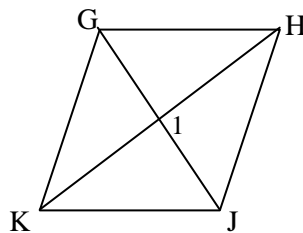
- 0 A. 18
- 0 B. 12
- 0 C. 6
- 0 D. 4.5



(Related Tutorial Video: [Video 1](#), [Video 2](#))

69. For rhombus  $GHJK$ , determine  $m\angle 1$ .

- 0 A.  $45^\circ$
- 0 B.  $60^\circ$
- 0 C.  $90^\circ$
- 0 D.  $120^\circ$



(Related Tutorial Video: [See question 17](#))



**Day 24**

70. Given quadrilateral  $XYWZ$ , determine whether  $\overrightarrow{WX}$  and  $\overrightarrow{YZ}$  are parallel, perpendicular or neither.

$W(0, -3), X(-1, 5), Y(2, 5) Z(-1, 2)$

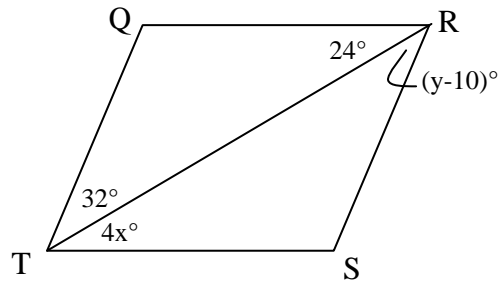
Show your work using words, numbers and/or diagrams.

Are $\overrightarrow{WX}$ and $\overrightarrow{YZ}$ parallel, perpendicular or neither? _____

(Related Tutorial Video: [See question 6](#))

71. Determine the value of  $x$  and  $y$  so that  $QRST$  will be a parallelogram.

- 0 A.  $x = 6, y = 42$
- 0 B.  $x = 6, y = 22$
- 0 C.  $x = 20, y = 42$
- 0 D.  $x = 20, y = 22$



(Related Tutorial Video: [See question 16](#))

72. Two angles measuring  $90^\circ$  are complementary.

Write the inverse.

---

---

---

Determine if the statement is true or false. \_\_\_\_\_

If it is false, write a counterexample.

---

---

---

(Related Tutorial Video: [See question 18](#))

**Day 25**

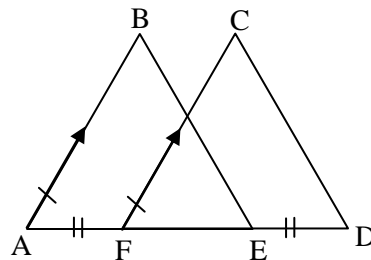
73. Which statement is an example of deductive reasoning?

- 0 A. This bird is white. Swans are white. Therefore, this bird is a swan.
- 0 B. Dogs are mammals. Mammals breathe oxygen. Therefore dogs breathe oxygen.
- 0 C. This rock is not heavy. Lava rocks are not heavy. Therefore this rock is lava rock.
- 0 D. When the sidewalks get icy, they get slippery. The sidewalks are slippery. Therefore the sidewalks are icy.

(Related Tutorial Video: [See question 12](#))

74. If  $\overline{AF} \cong \overline{DE}$ ,  $\overline{AB} \cong \overline{FC}$  and  $\overline{AB} \parallel \overline{FC}$ , determine which theorem or postulate can be used to prove  $\triangle ABE \cong \triangle FCD$ .

- 0 A. AAS
- 0 B. ASA
- 0 C. SAS
- 0 D. SSS



(Related Tutorial Video: [See question 10](#))

75. Identify which of the following is a property of a parallelogram.

- 0 A. The diagonals are congruent.
- 0 B. The diagonals bisect the angles.
- 0 C. The diagonals are perpendicular.
- 0 D. The diagonals bisect each other.

(Related Tutorial Video: [See question 16](#))