6-1 Opener - Perpendicular Bisectors

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Find each measure.

Find *AB. Find* *JK*.

***A blue line on a black background

Description automatically generated*A blue lines on a black background

Description automatically generated**

1. Find *AD* if *F* is the circumcenter of ∆AEC, *DF* = 6.1, and *EF* = 13.2. Round to the nearest tenth.

A blue and pink triangle with squares

Description automatically generated

6-1 Exit Slip - Perpendicular Bisectors

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Find each measure.

Find *NM. Find* *QT*.

**A blue lines on a black background

Description automatically generated**

**A blue and pink triangle with dots and lines

Description automatically generated**

1. Find *AB* if *F* is the circumcenter of ∆AEC, *BF* = 5.2, and *FC* = 12.7. Round to the nearest tenth.

A blue and pink triangle with squares

Description automatically generated

6-2 Opener – Angle Bisectors

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. Find each measure.

find find

**A blue and pink lines on a black background

Description automatically generated**A blue lines and dots on a black background

Description automatically generated

A blue and pink triangle with dots and lines

Description automatically generated

1. ***T* is the incenter of ∆*QRS.* Find each measure.**

*TW*

*m∠VST*

*QT* (to the nearest tenth)

6-2 Exit Slip – Angle Bisectors

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. Find each measure.

find find

**A blue and pink lines on a black background

Description automatically generated**A blue lines and dots on a black background

Description automatically generated

1. ***D* is the incenter of ∆*ABC.* Find each measure.**

*m∠DBE*

A blue and pink triangle with dots and lines

Description automatically generated*m∠FCD*

*ED*

6-3 Opener – Medians and Altitudes of Triangles

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. In △QRS, W is the centroid, WQ = 35, TW = 20, and SU = 69. Find each measure.

Find VW

**A blue line drawing of a triangle

Description automatically generated**

Find VQ

1. Find the coordinates of the orthocenter of the triangle with the given vertices.

*A*(–1, –3), *B*(–1, 2), *C*(2, 3)

6-3 Exit Slip – Medians and Altitudes of Triangles

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. In △QRS, W is the centroid, WQ = 35, TW = 20, and SU = 69. Find each measure.

Find UW

**A blue line drawing of a triangle

Description automatically generated**

Find RT

1. Find the coordinates of the orthocenter of the triangle with the given vertices.

*R*(–5, 3), *S*(1, –3), *T*(2, 3)

6-4 Opener – Inequalities in One Triangle

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. **A blue line on a black background

   Description automatically generated**List the angles that satisfy the stated condition.

measures are less than *m*∠3 

measures are less than *m*∠5 

1. List the angles and sides of each triangle in order from smallest to largest.

A blue triangle on a black background

Description automatically generatedA blue triangle on a black background

Description automatically generated

6-4 Exit Slip – Inequalities in One Triangle

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. **A blue line on a black background

   Description automatically generated**List the angles that satisfy the stated condition.

 measures are greater than *m*∠1

measures are less than *m*∠2 

1. List the angles and sides of each triangle in order from smallest to largest.

A blue pole with a black background

Description automatically generatedA blue triangle with black background

Description automatically generated

6-5 Opener – Indirect & Direct Proof (BONUS)

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. Write an indirect proof of each statement. Assume that x and y are integers.

If , then *x* ≤ 1.

**Given:**  is a negative integer.

**Prove:** *x* is a negative integer.

1. Write a direct proof of each statement. Assume that x and y are integers.

**Given:** *x* is even, and y is odd.

**Prove:**  is even.

**Given:** x iseven, and y is even.

**Prove:** *x+y+1* is an odd integer.

6-5 Exit Slip – Indirect & Direct Proof (BONUS)

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

1. Write an indirect proof of each statement.

If *x* – 4 > 0, then *x* > 4

**Given:** *x* is an odd integer, and *y* is an even integer.

**Prove:** *x* + *y* is an odd integer.

1. Write a direct proof of each statement. Assume that x and y are integers.

**Given:** *x* is an odd integer, and *y* is an odd integer.

**Prove:** *x* - *y* is an even integer.

**Given:** *x*(*x* + 1) and x is an integer.

**Prove:** *x(x+1) is always an even integer.*

* 1. Opener – The Triangle Inequality

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Is it possible to form a triangle with the given side lengths? If not, explain why not.

3, 5, 8

2, 4, 5

Find the range for the measure of the third side of a triangle given the measures of two sides.

2 km and 42 km

A blue lines on a black background

Description automatically generatedWrite a two-column proof.

**Given:**

**Prove:**

6-6 Exit Slip – The Triangle Inequality

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Is it possible to form a triangle with the given side lengths? If not, explain why not.

250, 350, 500

7, 12, 22

Find the range for the measure of the third side of a triangle given the measures of two sides.

22 in. and 17 in

A blue triangle with a black background

Description automatically generated

Write a two-column proof.

**Given:**

**Prove:**

* 1. Opener – Inequalities in Two Triangles

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Find the range of possible values for x.

A blue line on a black background

Description automatically generated

A blue triangle with a black background

Description automatically generated

A blue triangle with pink lines

Description automatically generatedWrite a two-column proof.

**Given:**

**Prove:**

6-7 Exit Slip – Inequalities in Two Triangles

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_

Find the range of possible values for x.

A blue triangle on a black background

Description automatically generatedA blue line drawing of a pyramid

Description automatically generated

A blue and pink lines on a black background

Description automatically generatedWrite a two-column proof.

**Given**

**Prove:**