

Unit 4

Expressions & Equations

Homework

CONSTRUCTING TRIANGLES

Created By: **Math in Demand**

Get Connected with Math in Demand

Please don't
forget to
rate me.
Click here!!!



Teachers Pay Teachers Store



Check Out My Blog



Visit My Pinterest

Click on the
buttons to
learn more
about me!



Watch My Videos



Email Me

Thank you!!!

Score ___ / ___

Name: _____

Date: _____

Per: _____

Circle One
Due: M T W Th F

Geometry

(Constructing Triangles)

Directions: Answer problems #1-5. Show all of your work!

1 How can I determine if three sides form a triangle? Give an example.

2 How can I determine if three angles form a triangle? Give an example.

5 Come up with three dimensions that would form a triangle. Explain how you know that your dimensions would form a triangle.

3 Determine if the following three sides form a triangle, then state your reasoning:

5 cm, 7 cm, 10 cm

4 Determine if the following three angles form a triangle, then state your reasoning:

48° , 32° , 110°

Geometry

(Constructing Triangles)

Directions: Answer problems #6-8. Show all of your work!

6 Find the mistake!

Circle the mistake below and explain why it is wrong:

Determine if the following three sides form a triangle:

5.5 in, 7.25 in, and 9 in

$$5.5 \text{ in} + 7.25 \text{ in} > 9 \text{ in}$$

$$7.25 \text{ in} + 9 \text{ in} < 5.5 \text{ in}$$

$$5.5 \text{ in} + 9 \text{ in} < 7.25 \text{ in}$$

Since, the sum of 5.5 in and 7.25 in is greater than 9 in, the three sides form a triangle.

Explanation:

7 Be Creative!

Create your own word problem and solve below:

8 Reflection:

From this homework assignment, I ...

Circle One
Due: M T W Th F

Geometry

(Constructing Triangles)

Directions: Answer problems #1-5. Show all of your work!

1 How can I determine if three sides form a triangle? Give an example.

One side must be smaller than the sum of the other two sides. This is the triangle inequality theorem. For example, if you are given 6 cm, 10 cm, and 15 cm, then $6 + 10 > 15$, $6 + 15 > 10$, and $10 + 15 > 6$. Thus, these dimensions form a triangle.

2 How can I determine if three angles form a triangle? Give an example.

All three angles would need to sum up to 180° . An example is 40° , 50° , and 90° .

5

Come up with three dimensions that would form a triangle. Explain how you know that your dimensions would form a triangle.

Example:

3 cm, 4 cm, and 5 cm

These dimensions form a triangle since

$$3 \text{ cm} + 4 \text{ cm} > 5 \text{ cm}$$

$$4 \text{ cm} + 5 \text{ cm} > 3 \text{ cm}$$

$$3 \text{ cm} + 5 \text{ cm} > 4 \text{ cm}$$

Determine if the following three sides form a triangle, then state your reasoning:

5 cm, 7 cm, 10 cm

$$5 \text{ cm} + 7 \text{ cm} > 10 \text{ cm}$$

$$7 \text{ cm} + 10 \text{ cm} > 5 \text{ cm}$$

$$5 \text{ cm} + 10 \text{ cm} > 7 \text{ cm}$$

Yes, these dimensions form a triangle. The sum of two sides are always greater than the third side.

Determine if the following three angles form a triangle, then state your reasoning:

48° , 32° , 110°

$$48^\circ + 32^\circ + 110^\circ = 190^\circ$$

No, these angles do not form a triangle. The sum of all three angles is not equal to 180° .

3

4

Geometry

(Constructing Triangles)

Directions: Answer problems #6-8. Show all of your work!

6 Find the mistake!

Circle the mistake below and explain why it is wrong:

Determine if the following three sides form a triangle:

5.5 in, 7.25 in, and 9 in

$$5.5 \text{ in} + 7.25 \text{ in} > 9 \text{ in}$$

$$7.25 \text{ in} + 9 \text{ in} < 5.5 \text{ in}$$

$$5.5 \text{ in} + 9 \text{ in} < 7.25 \text{ in}$$

Since, the sum of 5.5 in and 7.25 in is greater than 9 in, the three sides form a triangle.

Explanation:

In order to form a triangle, the sum of two sides must be greater than the third side. However, this has to be true for ALL three dimensions. Therefore, these dimensions do not form a triangle.

7 Be Creative!

Create your own word problem and solve below:

In order to receive credit, students need to create their own word problem and solve it. They will not receive credit if they do not provide a word problem. Also, it needs to be a word problem involving constructing triangles.

8 Reflection:

From this homework assignment, I ...

Students need to write a good reflection about 2-3 sentences long. They cannot write "I learned how to do math" or anything similar. The reflection needs to show serious thought.

© 2018 Math in Demand. The download of my homework includes a limited use license from Math in Demand. You may only use the resource for personal classroom use.

Hence,

- 1.) This purchase does not allow you to transfer it to others such as another teacher, school, or district. You must purchase an additional license.
- 2.) You may not sell my homework.
- 3.) You may not place my homework on the internet.
- 4.) You may not use any part of my homework to sell or create your own.

Violating these terms is against the Digital Millennium Copyright Act (DMCA).

Credits

Paula Kim Studio



Media Icons by Grade ONEderful at:

<http://www.GradeONEderful.com>

Font and graphics by:

<http://www.teacherspayteachers.com/Store/Courtney-Keimer>

<https://www.teacherspayteachers.com/Store/Sonya-Dehart-Design>