Justifications with Angle Relationships: Examples

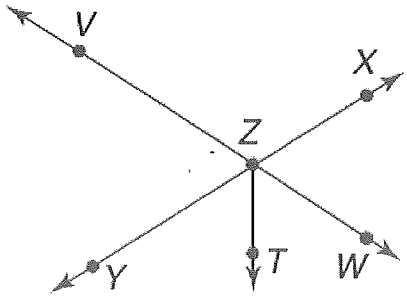
Directions: Show the geometry and the justification.

1. If <1 and <2 are a linear pair.

2. If <1 and <2 are vertical angles.

Directions: You are given a geometric statement, provide the correct justification for that geometric statement.

Assume that $\overrightarrow{ZT}$ bisects < YZW.



3. What justifies <VZT = <VZY + <YZT?

4. What justifies <XZV + <VZY = 180°?

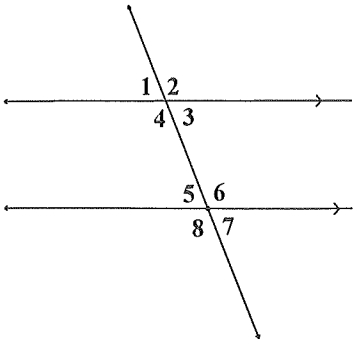
5. What justifies <WZY = 2<WZT?

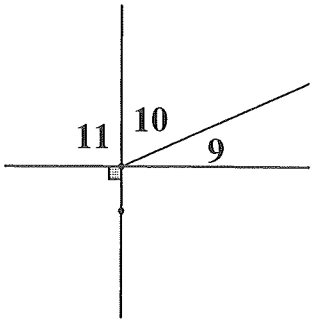
6. What justifies <VZY ≅ <XZW?

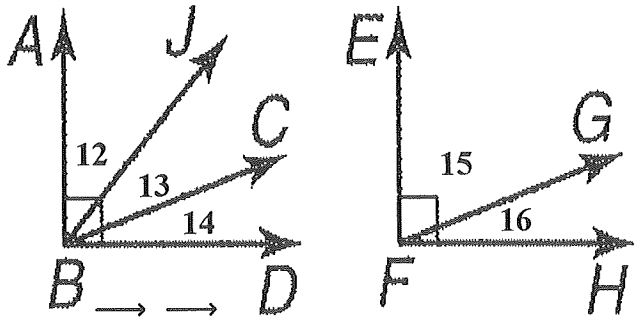
7. What justifies <TZY ≅ <TZW?

Name: _____ Hour: _____

JUSTIFICATION PRACTICE WORKSHEET







$\overrightarrow{BA} \perp \overrightarrow{BD}$

$\overrightarrow{BC}$ is an < bisector

<ABD and <EFH are suppl.

Below are examples of students' geometric set ups based on the pictures above. Justify their set up using your justification bank.

1. <ABD=90°

2. <11=90°

3. <6≅<8

4. <8 +<5 =180°

5. <4 + <5= 180°

6. <3≅<7

7. <13≅<14

8. < 15+<16=90°

9. <ABD+<EFH=180°

10. <7≅<1

11. <12+<13+<14=<ABD

12. <6≅<4

Directions: Given the figure to the right, describe if a // b or m // l based on the information provided.

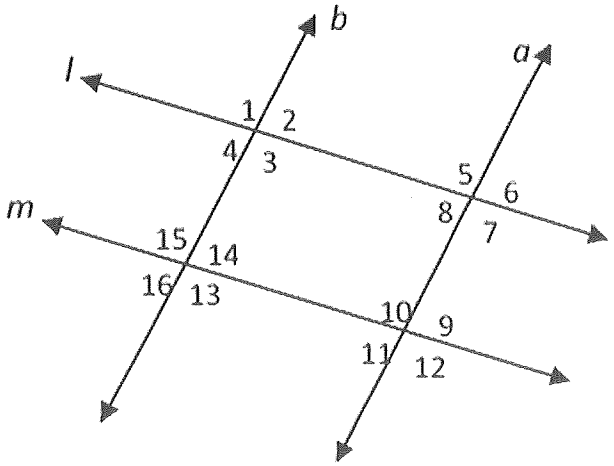
12. <3 ≅ <15 proves l // m. What is the justification?

13. <9 ≅ <16 proves a // b. What is the justification?

14. <6 ≅ <2 proves a// b. What is the justification?

15. <3 + <14 = 180 proves l // m. What is the justification?

16. <2 + <5 = 180 proves a // b. What is the justification?



Justifications with Angle Relationships: Examples

Directions: Show the geometry and the justification.

1. If <1 and <2 are a linear pair.

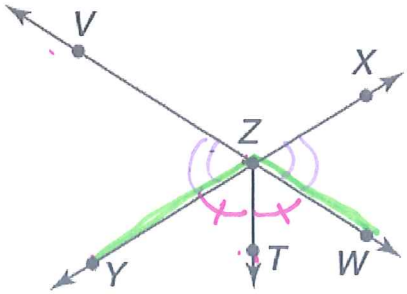
$\angle 1 + \angle 2 = 180^\circ$ linear pairs are suppl.

2. If <1 and <2 are vertical angles.

$\angle 1 \cong \angle 2$ vertical $\angle$s are $\cong$

Directions: You are given a geometric statement, provide the correct justification for that geometric statement.

Assume that $\overrightarrow{ZT}$ bisects < YZW.



3. What justifies <VZT = <VZY + <YZT?

Angle addition.

4. What justifies <XZV + <VZZY = 180°?

linear pairs are Suppl.

5. What justifies <WZY = 2<WZT?

def of $\angle$ bisector.

6. What justifies <VZY ≅ <XZW?

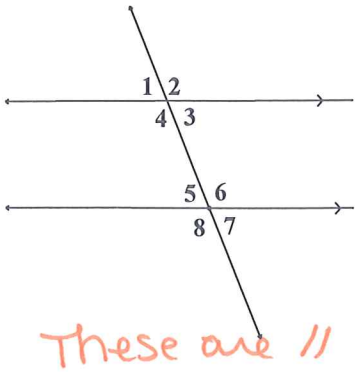
Vertical $\angle$s are $\cong$

7. What justifies <TZY ≅ <TZW?

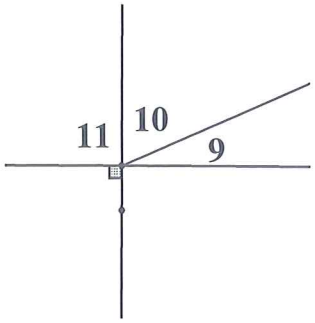
def of $\angle$ bisector

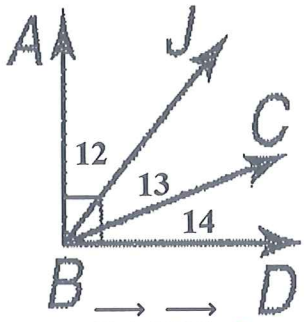
Name: Key Hour: _____

JUSTIFICATION PRACTICE WORKSHEET



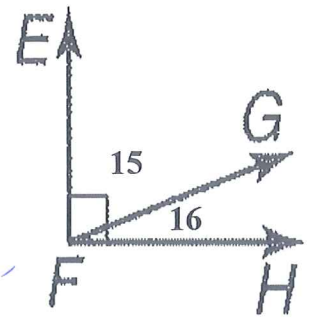
These are //
So we know //
"// lines form...."





$\overrightarrow{BA} \perp \overrightarrow{BD}$ ←

$\overrightarrow{BC}$ is an < bisector



∠ABD and ∠EFH are suppl.

Below are examples of students' geometric set ups based on the pictures above. Justify their set up using your justification bank.

1. $\angle ABD = 90°$ def of ⊥ (because we are given ⊥)

2. $\angle 11 = 90°$ def of RT ∠

3. $\angle 6 \cong \angle 8$ Vertical ∠s are ≅

4. $\angle 8 + \angle 5 = 180°$ linear pairs are suppl.

5. $\angle 4 + \angle 5 = 180°$ // lines form suppl. con. int. ∠s.

6. $\angle 3 \cong \angle 7$ // lines form ≅ corr. ∠s

7. $\angle 13 \cong \angle 14$ def of ∠ bisector

8. $\angle 15 + \angle 16 = 90°$ def of compl.

9. $\angle ABD + \angle EFH = 180°$ def of suppl.

10. $\angle 7 \cong \angle 1$ // lines form ≅ alt. ext. ∠s.

11. $\angle 12 + \angle 13 + \angle 14 = \angle ABD$ Angle addition

12. $\angle 6 \cong \angle 4$ // lines form ≅ alt. int ∠s

Directions: Given the figure to the right, describe if a // b or m // l based on the information provided.

12. $\angle 3 \cong \angle 15$ proves l // m. What is the justification?
≅ alt. int. ∠s form // lines.

13. $\angle 9 \cong \angle 16$ proves a // b. What is the justification?
≅ alt. ext. ∠s form // lines.

14. $\angle 6 \cong \angle 2$ proves a// b. What is the justification?
≅ corr. ∠s form // lines.

15. $\angle 3 + \angle 14 = 180$ proves l // m. What is the justification?
Suppl. con. int. ∠s form // lines.

16. $\angle 2 + \angle 5$ proves a // b. What is the justification?
$\angle 2 + \angle 5 = 180$ suppl. con. int. ∠s form // lines.