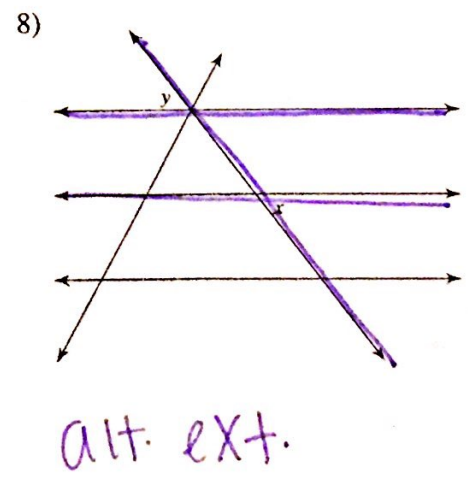
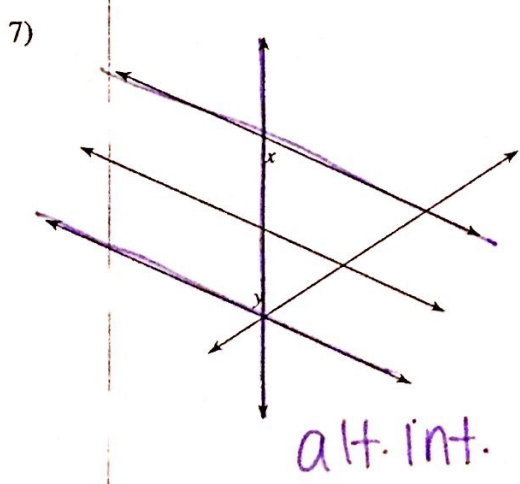
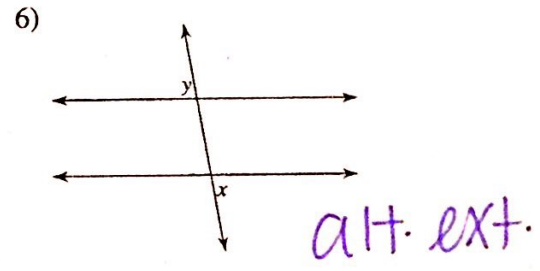
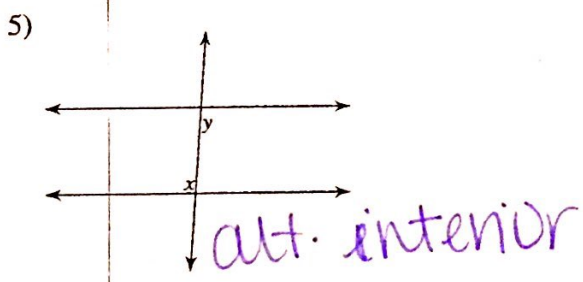
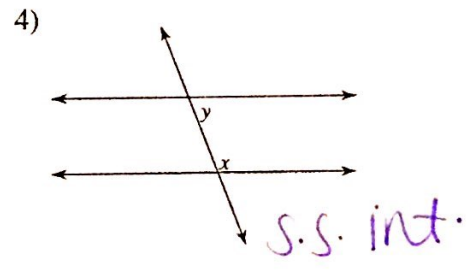
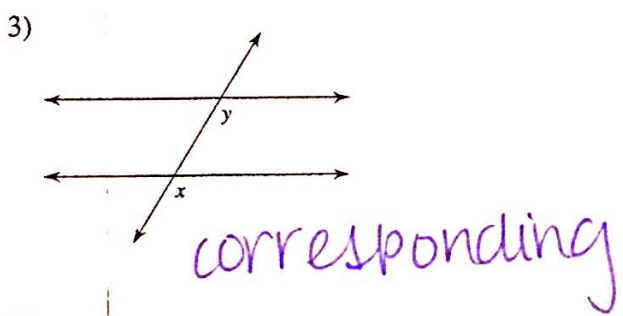
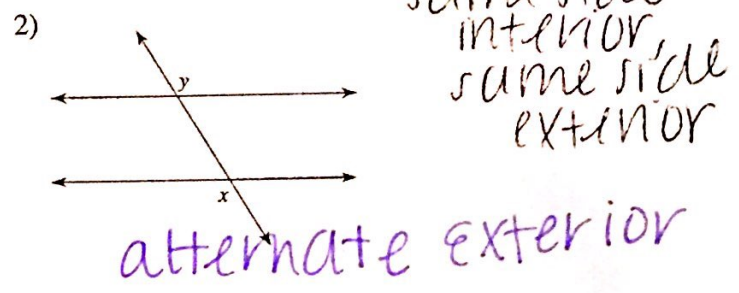
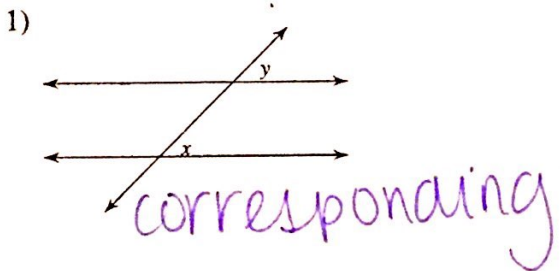


Parallel Lines and Transversals

\* Highlight your transversal

Identify each pair of angles as corresponding, alternate interior, alternate exterior, or consecutive interior.

same side interior, same side exterior



# Geometry – Practice

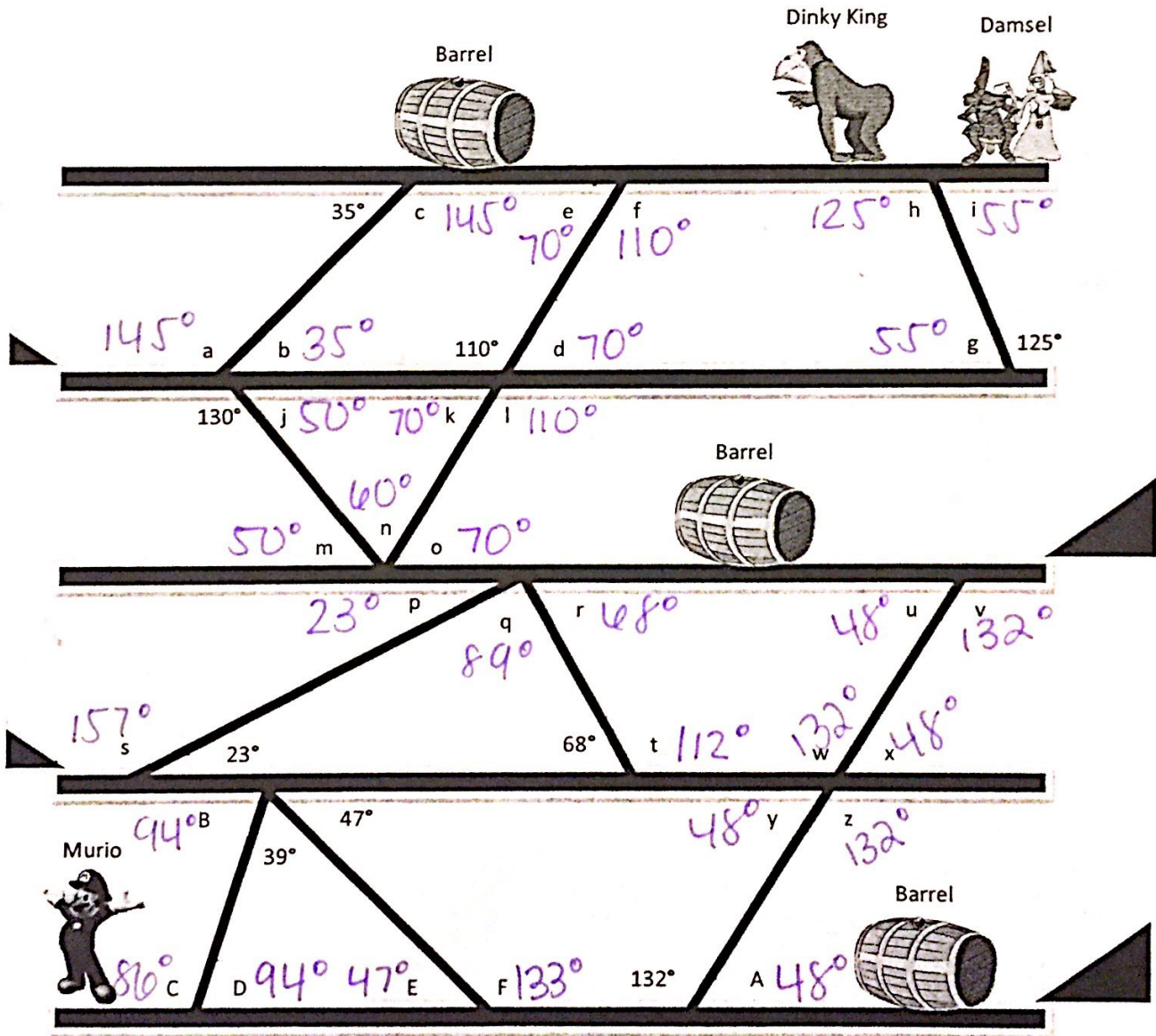
## Unit 2- Angle Relationships

Name: *Kely*  
 Period: 2 4 7      Date: 11/14/17

### Dinky King – The Next Generation of Platform Game!

I need your help! I was never any good at maths and I'm designing a new game called "Dinky King". It's a platform game where my main character, Murio has to save a damsel in distress by jumping over the barrels rolled down the platforms at him. Murio climbs the ladders, which will be at different angles, in order to get to the damsel and free her. All the platforms are parallel with a wedge at each end to make the barrel roll. We are so close to completing it but I can't calculate all the angles that the computer programmer needs in order to finish the game.

Please find all the missing angles on the game:





Reasons may vary:

- 1.)  $m\angle a = 145^\circ$  ; Reason: If Linear pair, then supp. (w/  $\angle b$ )
- 2.)  $m\angle b = 35^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$
- 3.)  $m\angle c = 145^\circ$  ; Reason: If Linear pair, then supp. (w/  $\angle d$ )
- 4.)  $m\angle d = 70^\circ$  ; Reason: If L.P. then supp. (w/  $110^\circ$ )
- 5.)  $m\angle e = 70^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $\angle b$ )
- 6.)  $m\angle f = 110^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $\angle d$ )
- 7.)  $m\angle g = 55^\circ$  ; Reason: If L.P. then supp. (w/  $125^\circ$ )
- 8.)  $m\angle h = 125^\circ$  ; Reason: If  $\parallel$ , then same side int.  $\angle s$  supp. ( $\angle g$ )
- 9.)  $m\angle i = 55^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $\angle g$ )
- 10.)  $m\angle j = 50^\circ$  ; Reason: If L.P. then supp. (w/  $130^\circ$ )
- 11.)  $m\angle k = 70^\circ$  ; Reason: Vertical Angle THM. (w/  $\angle d$ )
- 12.)  $m\angle l = 110^\circ$  ; Reason: Vertical Angle THM. (w/  $\angle i$ )
- 13.)  $m\angle m = 50^\circ$  ; Reason: If  $\parallel$  then alt. int.  $\angle s \cong$  (w/  $\angle j$ )
- 14.)  $m\angle n = 60^\circ$  ; Reason: Angles in a  $\Delta$  sum to  $180^\circ$  ( $\angle j$  &  $\angle k$ )
- 15.)  $m\angle o = 70^\circ$  ; Reason:  $\angle m$  &  $\angle n$  &  $\angle o$  supp.
- 16.)  $m\angle p = 23^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $23^\circ$ )
- 17.)  $m\angle q = 89^\circ$  ; Reason: If  $\Delta$ , then angles sum to  $180^\circ$
- 18.)  $m\angle r = 68^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $68^\circ$ )
- 19.)  $m\angle s = 157^\circ$  ; Reason: If  $\parallel$ , then s.s. int  $\angle s$  supp. (w/  $23^\circ$ )
- 20.)  $m\angle t = 112^\circ$  ; Reason: If L.P. then supp. (w/  $\angle t$ )
- 21.)  $m\angle u = 48^\circ$  ; Reason: If  $\parallel$ , then alt. int.  $\angle s \cong$  (w/  $\angle w$ )
- 22.)  $m\angle v = 132^\circ$  ; Reason: If  $\parallel$ , then corr.  $\angle s \cong$  (w/  $\angle z$ )
- 23.)  $m\angle w = 132^\circ$  ; Reason: Vertical  $\angle$  THM. (w/  $\angle z$ )
- 24.)  $m\angle x = 48^\circ$  ; Reason: Vertical  $\angle$  THM. (w/  $\angle u$ )
- 25.)  $m\angle y = 48^\circ$  ; Reason: If L.P. then supp. (w/  $\angle z$ )
- 26.)  $m\angle z = 132^\circ$  ; Reason: If  $\parallel$  then alt. int.  $\angle s \cong$  (w/  $132^\circ$ )

- 27.)  $m\angle A = 48^\circ$     28.)  $m\angle B = 94^\circ$     29.)  $m\angle C = 86^\circ$     30.)  $m\angle D = 94^\circ$   
 31.)  $m\angle E = 47^\circ$     32.)  $m\angle F = 133^\circ$



proofs may vary!

statements	reasons
① 1. $r // p$ & $\angle 2 \cong \angle 1$	1. Given
2. $\angle 2 \cong \angle 3$	2. If $//$ , then alt. Ext. $\angle s \cong$ .
3. $\angle 1 \cong \angle 3$	3. Substitution
4. $n // g$	4. If corr. $\angle s \cong$ then $//$ .

statements	reasons
② 1. $r // p$ & $n // g$	1. Given
2. $\angle 2 \cong \angle 3$	2. If $//$ , then alt. $\angle s \cong$
3. $\angle 1 \cong \angle 3$	3. If $//$ then corr. $\angle s \cong$
4. $\angle 1 \cong \angle 2$	4. Transitive

statements	reasons
③ 1. $p // q$ & $\angle 3 \cong \angle 6$	1. Given
2. $\angle 4 \cong \angle 6$	2. If $//$ , then corr. $\angle s \cong$
3. $\angle 3 \cong \angle 4$	3. Substitution
4. $r // s$	4. If alt. int. $\angle s \cong$ , then $//$ .

statements	reasons
④ 1. $r // s$ and $\angle 2 \cong \angle 5$	1. Given
2. $\angle 5 \cong \angle 6$	2. If $//$ , then alt. int. $\angle s \cong$
3. $\angle 2 \cong \angle 6$	3. Substitution