

Name: _____

Grade: _____

Score: _____

Worksheet #4

**APPLICATIONS OF LINEAR PAIRS**

Learning goal: Students will be able to identify linear pairs in everyday objects and structures, calculate linear pair angles in practical scenarios

PROBLEM	SOLUTION & EXPLANATION
A door's hinge creates angles when opened. If it forms a 65° angle with the wall, find the adjacent angle.	
A folding table's legs create adjacent angles. If one angle is 110° , find the angle on the opposite side.	
A clock shows 4:00. When the time changes to 4:10, find the adjacent angle between the hour and minute hands.	
A ramp meets a platform at 150° . Find the angle between the ramp and the ground.	
Two cross streets intersect. If one corner angle is 85° , find the adjacent angle for pedestrians.	
A laptop screen is tilted at 100° from the keyboard. Find the angle between the screen and table.	
A construction beam meets another at 135° . Find the supplementary angle for support.	
A pair of scissors is open at 40° . Find the angle between the blades on the other side.	
A painter's ladder forms a 70° angle with the ground. Find the angle against the house.	
A bridge's support cables make a 25° angle with the deck. Find the adjacent angle underwater.	

Name:

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Worksheet #4(Answers)



APPLICATIONS OF LINEAR PAIRS

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PROBLEM	SOLUTION & EXPLANATION
A door's hinge creates angles when opened. If it forms a 65° angle with the wall, find the adjacent angle.	Door and wall form a linear pair (180°). $180^\circ - 65^\circ = 115^\circ$. Answer: 115°
A folding table's legs create adjacent angles. If one angle is 110° , find the angle on the opposite side.	Linear pair: $180^\circ - 110^\circ = 70^\circ$. Answer: 70°
A clock shows 4:00. When the time changes to 4:10, find the adjacent angle between the hour and minute hands.	At 4:10, hour hand moves 5° $(0.5^\circ/\text{min} \times 10)$, minute hand at 60° . Adjacent angle = 120° $(\text{original}) - 25^\circ$ $(\text{change}) = 95^\circ$.
A ramp meets a platform at 150° . Find the angle between the ramp and the ground.	Linear pair with platform: $180^\circ - 150^\circ = 30^\circ$. Answer: 30°
Two cross streets intersect. If one corner angle is 85° , find the adjacent angle for pedestrians.	Street intersections form linear pairs: $180^\circ - 85^\circ = 95^\circ$. Answer: 95°
A laptop screen is tilted at 100° from the keyboard. Find the angle between the screen and table.	Screen and table form a linear pair: $180^\circ - 100^\circ = 80^\circ$. Answer: 80° Explanation
A construction beam meets another at 135° . Find the supplementary angle for support.	Linear pair: $180^\circ - 135^\circ = 45^\circ$. Answer: 45°

A pair of scissors is open at 40° . Find the angle between the blades on the other side.	Scissors' handles form a linear pair: $180^\circ - 40^\circ$ $= 140^\circ$. Answer: 140°
A painter's ladder forms a 70° angle with the ground. Find the angle against the house.	Ground and wall are linear: $180^\circ - 70^\circ$ $= 110^\circ$. Answer: 110°
A bridge's support cables make a 25° angle with the deck. Find the adjacent angle underwater.	Linear pair: $180^\circ - 25^\circ$ $= 155^\circ$. Answer: 155°



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