

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Classify Lines from Slopes

Assume the lines are distinct. Classify each pair as parallel, perpendicular, or neither.

1. Classify the pair of slopes.

$$m1: \frac{1}{5}$$

$$m2: \frac{1}{5}$$

Classification: _____

2. Classify the pair of slopes.

$$m1: \frac{5}{7}$$

$$m2: -\frac{7}{5}$$

Classification: _____

3. Classify the pair of slopes.

$$m1: -\frac{12}{11}$$

$$m2: \frac{3}{4}$$

Classification: _____

4. Classify the pair of slopes.

$$m1: \frac{7}{4}$$

$$m2: \frac{7}{4}$$

Classification: _____

5. Classify the pair of slopes.

$$m1: -\frac{11}{5}$$

$$m2: \frac{3}{4}$$

Classification: _____

6. Classify the pair of slopes.

$$m1: -\frac{9}{2}$$

$$m2: \frac{2}{9}$$

Classification: _____

7. Classify the pair of slopes.

$$m1: -\frac{3}{5}$$

$$m2: -\frac{1}{12}$$

Classification: _____

8. Classify the pair of slopes.

m1: undefined

m2: undefined

Classification: _____

9. Classify the pair of slopes.

m1: 0

m2: undefined

Classification: _____

10. Classify the pair of slopes.

$$m1: -\frac{8}{9}$$

$$m2: -\frac{11}{4}$$

Classification: _____

Classify Lines from Slopes

Worked Answer Key

Assume the lines are distinct. Classify each pair as parallel, perpendicular, or neither.

1. Classify the pair of slopes.

m1: $\frac{1}{5}$

m2: $\frac{1}{5}$

The slopes are equal, so the distinct lines are parallel.

Answer: parallel

2. Classify the pair of slopes.

m1: $\frac{5}{7}$

m2: $-\frac{7}{5}$

The slopes are negative reciprocals, so the lines are perpendicular.

Answer: perpendicular

3. Classify the pair of slopes.

m1: $-\frac{12}{11}$

m2: $\frac{3}{4}$

The slopes are neither equal nor negative reciprocals.

Answer: neither

4. Classify the pair of slopes.

m1: $\frac{7}{4}$

m2: $\frac{7}{4}$

The slopes are equal, so the distinct lines are parallel.

Answer: parallel

5. Classify the pair of slopes.

m1: $-\frac{11}{5}$

m2: $\frac{3}{4}$

The slopes are neither equal nor negative reciprocals.

Answer: neither

6. Classify the pair of slopes.

m1: $-\frac{9}{2}$

m2: $\frac{2}{9}$

The slopes are negative reciprocals, so the lines are perpendicular.

Answer: perpendicular

7. Classify the pair of slopes.

m1: $-\frac{3}{5}$

m2: $-\frac{1}{12}$

The slopes are neither equal nor negative reciprocals.

Answer: neither

8. Classify the pair of slopes.

m1: undefined

m2: undefined

The slopes are equal, so the distinct lines are parallel.

Answer: parallel

9. Classify the pair of slopes.

m1: 0

m2: undefined

One line is horizontal and the other is vertical, so they are perpendicular.

Answer: perpendicular

10. Classify the pair of slopes.

m1: $-\frac{8}{9}$

m2: $-\frac{11}{4}$

The slopes are neither equal nor negative reciprocals.

Answer: neither