Lesson 10: Angle Measurement and Perpendicular Lines

- Let's measure all kinds of angles.

Warm-up: Number Talk: Quotients

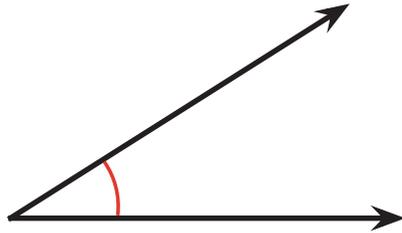Find the value of each expression mentally.

- $180 \div 2$

- $180 \div 4$

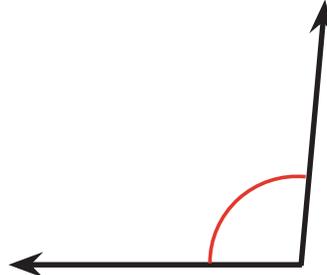- $360 \div 8$

- $360 \div 16$

10.1: Angles Here, There, Everywhere

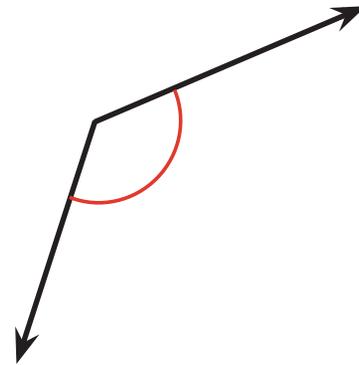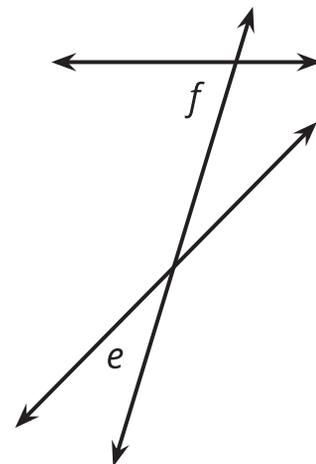1. Use a protractor to find the value of each angle measurement in degrees.
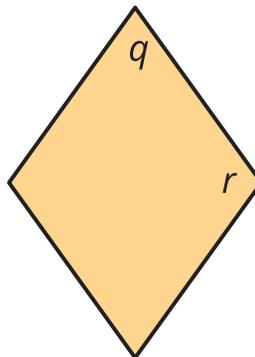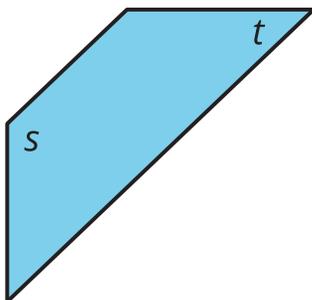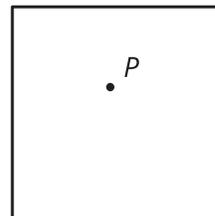
a.

b.

c.

d.

2. Use a protractor to measure the labeled angles in each figure.

10.2: A Folding Challenge

Tyler gave Lin a challenge: "Without using a protractor, draw four $90°$ angles. All angles have their vertex at point P."

Lin folded the paper twice, making sure each fold goes through point P. Then, she traced the creases.

1. Your teacher will give you a sheet of paper. Draw a point on it. Then, show how Lin might have met the challenge.

2. When Lin folded the paper, the creases formed a pair of **perpendicular lines**. What do you think "perpendicular lines" mean?

3. Use Lin's method to create a new pair of perpendicular lines through the same point. Trace the creases with a different color. Be prepared to explain how you know the lines you created are perpendicular.

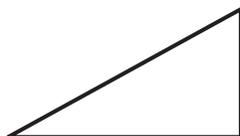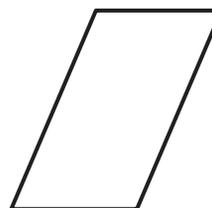4. Which shapes have sides that are perpendicular to one another?

A
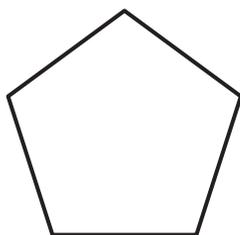
B
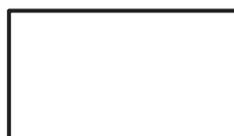
C

D

Mark the perpendicular sides. Be prepared to explain how you know the sides are perpendicular.