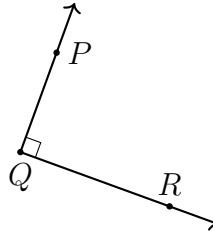## 3.2 Homework: Mixed review

1. Demonstrate your ability to classify angles and use standard terminology.

   (a) Which of the following are true with respect to the angle, m$\angle PQR$?
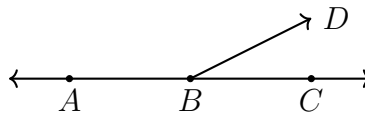
   True   False   It is a right angle

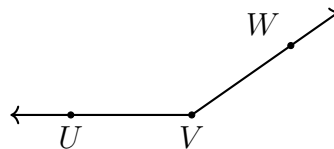   True   False   It's measure is 180°

   True   False $\overrightarrow{QP}$ is perpendicular to $\overrightarrow{QR}$

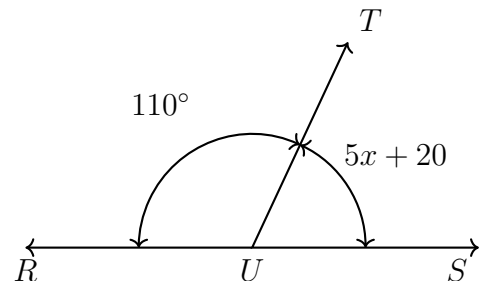   (b) What is the sum of the degree measures of this linear pair, $\angle ABD$ and $\angle CBD$?

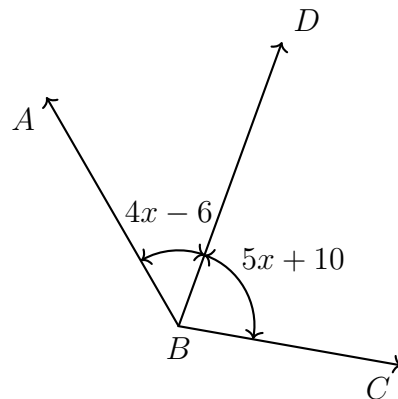   (c) The given angle $\angle UVW$ is which of the following: acute, obtuse, or right?

2. A linear pair is formed by two angles, m$\angle RUT = 110°$ and m$\angle SUT = 5x + 20$.
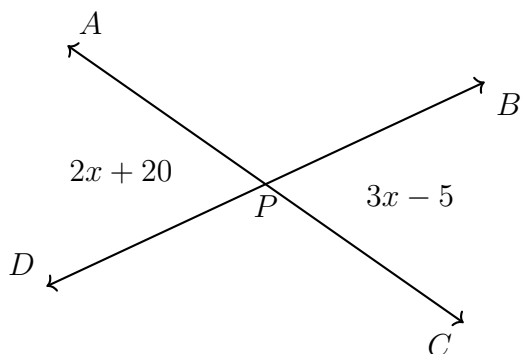
   Write an equation, then solve for x.

3. Given m∠ABD = 4x − 6, m∠DBC = 5x + 10, and m∠ABC = 130°, as shown.

Model the situation with an equation, then solve for x. Check your solution for full credit.

D

A

$4x − 6$

$5x + 10$

B

C

4. Given vertical angles, m∠APD = 3x − 5, m∠BPC = 2x + 20, as shown.

Find x. Check your solution for full credit.

A

B

$2x + 20$

P

$3x − 5$

D

C

5. In the diagram shown, $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$ with m∠DBE = 7x − 1° and m∠EBC = 6x°. Find x. Show the check for full credit.

D

E

$7x − 1$

$6x$

A B C