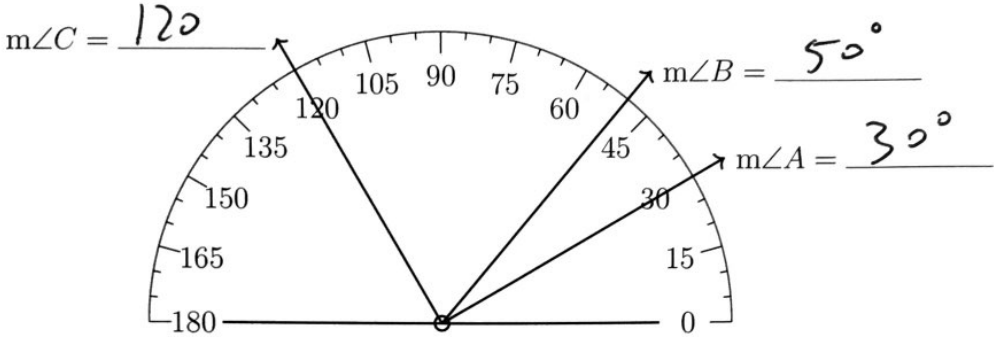
BECA / Dr. Huson / Geometry
Unit 2: Angles
14 October 2022

Name: Solutions

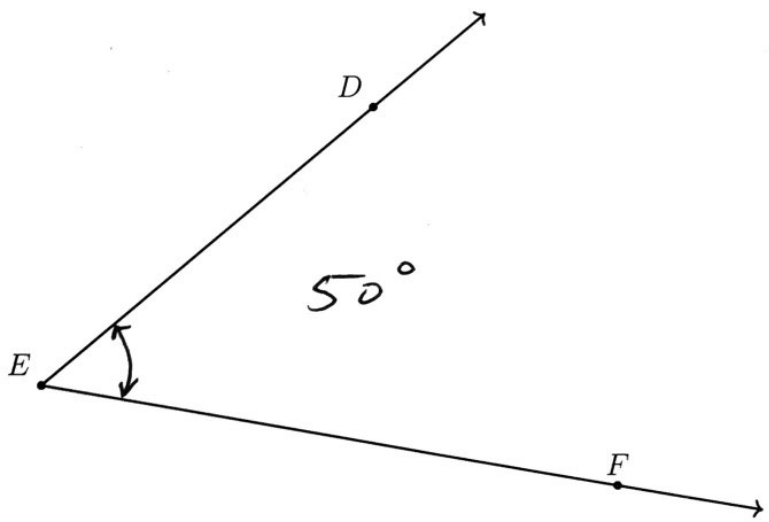
2.7 Test: Angle measures

Diagrams are not necessarily drawn to scale unless otherwise stated.

1. Use the image of the protractor to measure each of the angles.

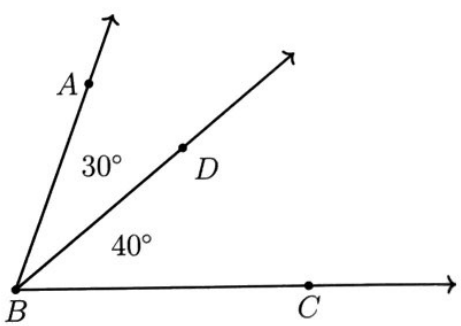


2. Find the measure of the angle in degrees with a protractor.

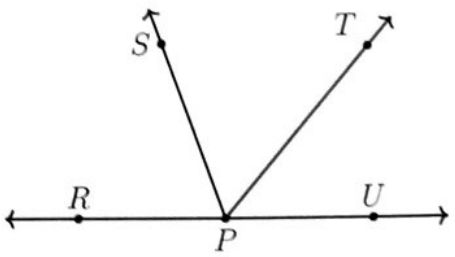


3. Given m∠$ABD = 30°$, m∠$DBC = 40°$. Calculate m∠ABC.

m∠ABC = 30 + 40 = 70°



4. Given the situation in the diagram, answer each question. Circle True or False.

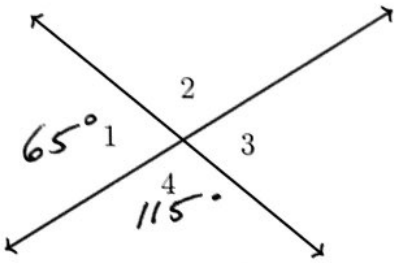


(a) T or F: $\angle RPT$ and $\angle SPU$ are adjacent angles.

(b) T or F: $\angle TPS$ is an obtuse angle.

(c) T or F: $\overrightarrow{PS}$ and $\overrightarrow{PT}$ are opposite rays.

5. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.



(a) Given that $m\angle 1 = 65°$, find $m\angle 3 =$ 65°

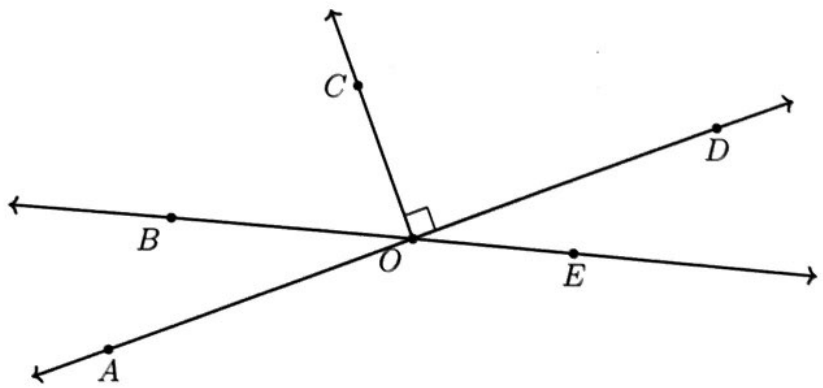
(b) $\angle 2 \cong$ ∠4 (115°)

(c) True or false, $\angle 1$ and $\angle 4$ are complementary angles. False

6. (a) Given, the diagram below. Name a right angle: ∠COD (∠COA)

(b) Name an angle that is complementary to $\angle AOB$: ∠BOC

(c) Name the angle that is opposite to $\angle DOE$: ∠AOB



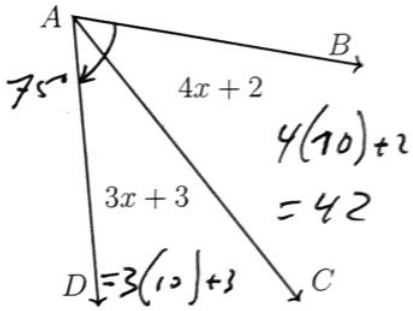
For full credit on these three problems, start with an equation and check your solution.

7. Given $m\angle BAC = 4x + 2$ and $m\angle CAD = 3x + 3$, $m\angle BAD = 75°$. Find $m\angle BAC$.

$4x+2+3x+3 = 75$

$7x+5 = 75$

$x = 10$



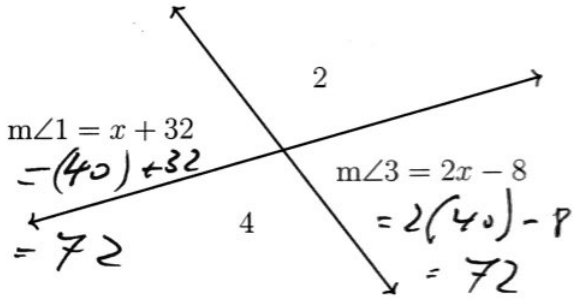
$= 33$

$33+42 = 75$ ✓

8. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$. Given that $m\angle 1 = x + 32$ and $m\angle 3 = 2x - 8$, find $m\angle 1$.

$x+32 = 2x-8$

$x = 40$



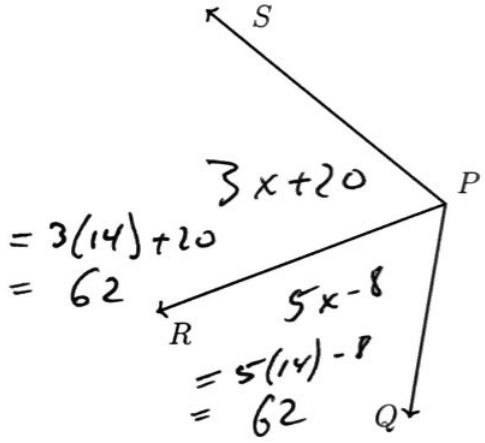
$72 = 72$ ✓

9. An angle bisector is shown below, with $\overrightarrow{PR}$ bisecting $\angle QPS$. Given $m\angle QPR = 5x - 8$ and $m\angle RPS = 3x + 20$, find $m\angle QPS$.

$5x-8 = 3x+20$

$2x = 28$

$x = 14$

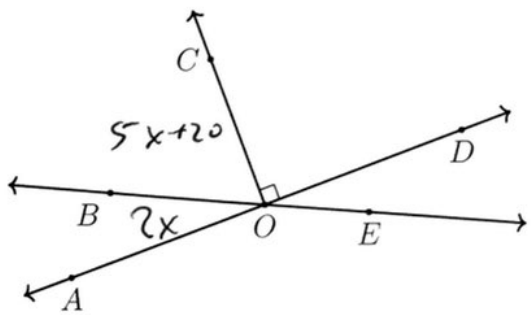


$62 = 62$ ✓

Do Not Solve!
Model the situation with an equation. Circle where it states what to find.

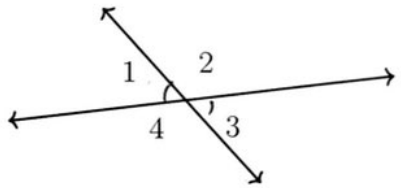
10. In the diagram below $\angle AOB = 2x$ and $\angle COB = 5x + 20$. Find $m\angle AOB$.

$2x + (5x+20) = 90°$



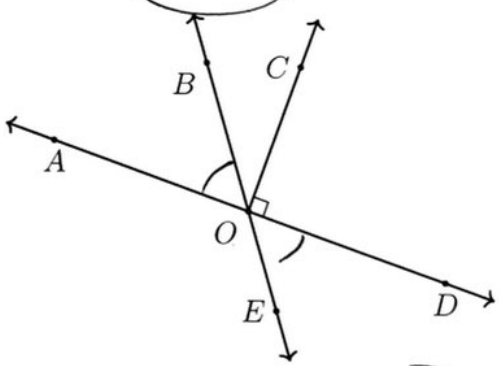
11. Two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$. Given that $m\angle 1 = 6x + 28$ and $m\angle 3 = 8x + 12$. Find $m\angle 1$.

$6x+28 = 8x+12$



12. In the diagram below $\angle AOB = 10x + 3$ and $\angle DOE = 63°$. Find x.

$10x+3 = 63$



13. Given that $m\angle 2 = 10x - 20$ and $m\angle 3 = 3x + 5$ as shown in the diagram, find $m\angle 2$.

$(10x-20) + (3x+5) = 180$