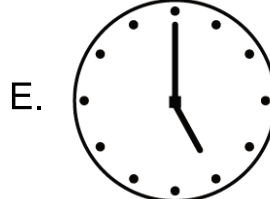
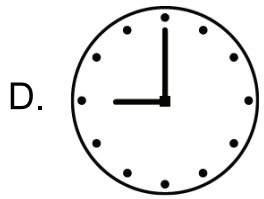
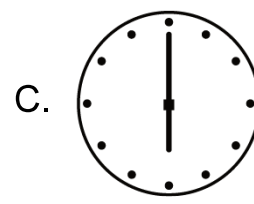
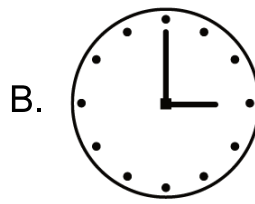
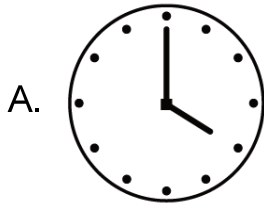
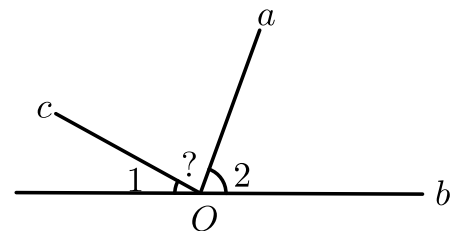


Lesson 1 Knowing Angle

- 1 On which picture do the hands of the clock form an angle with a measure of 150° ? (2006 Math Kangaroo Problem, Level 5-6, Question #5)



- 2 In the figure below, lines a , b , and c intersect at point O . Given that $\angle 1 = 30^\circ$ and $\angle 2 = 70^\circ$, what is the measure of the angle between $\angle 1$ and $\angle 2$?



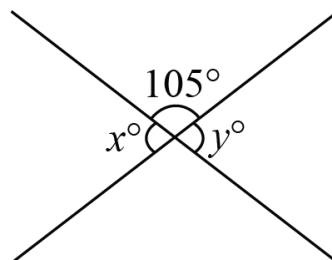
A. 70°

B. 85°

C. 80°

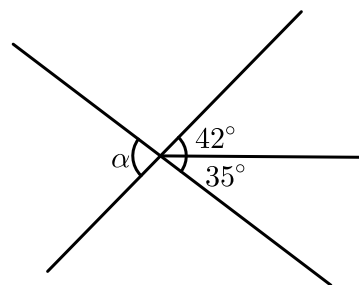
D. 60°

- 3 If two straight lines intersect as shown, then $x^\circ + y^\circ = (\quad)$.
(adapted from 1978-1979 Math League.com contest problem, 7th Grade, Question # 24)



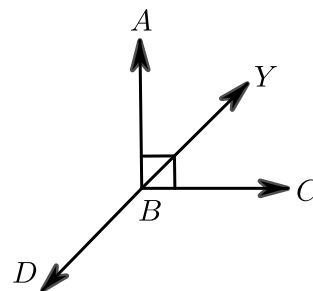
- A. 75° B. 210° C. 150° D. 180°

- 4 What is the measure of angle α ?



- A. 67° B. 77° C. 87° D. 57°

- 5 If DY bisects right angle $\angle ABC$ and makes $\angle ABY = \angle YBC$, what is the measure of $\angle ABD$? (adapted from 1984-1985 Math League.com contest problem, 7th Grade, Question #36)



A. 270°

B. 45°

C. 135°

D. 90°

Lesson 1 Solutions

1. E
N/A

2. C
 $180^\circ - (30^\circ + 70^\circ) = 80^\circ$

3. C
 $x = 180^\circ - 105^\circ = 75^\circ$
 $y = 180^\circ - 105^\circ = 75^\circ$
 $x + y = 75^\circ + 75^\circ = 150^\circ$

4. B
 $\angle \alpha = 180^\circ - (180^\circ - 42^\circ - 35^\circ) = 77^\circ$

5. C
 $\angle ABY = 90^\circ \div 2 = 45^\circ$,
 $\angle ABD = 180^\circ - 45^\circ = 135^\circ$.