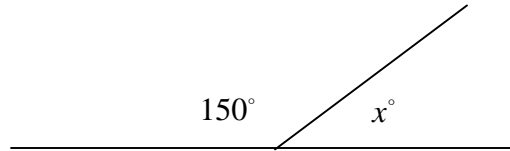
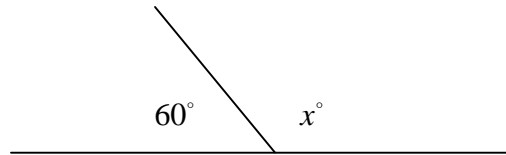


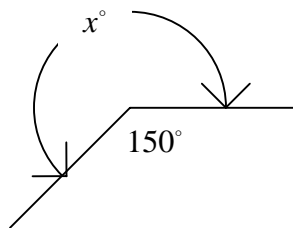
Geometry – Lines and Polygons



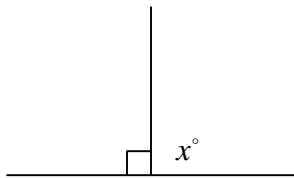
1. In the figure above, $x =$
 (A) 15 (B) 30 (C) 45 (D) 90 (E) 120



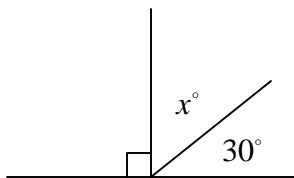
2. In the figure above, $x =$
 (A) 15 (B) 30 (C) 45 (D) 90 (E) 120



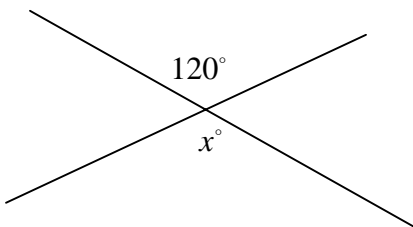
3. In the figure above, $x =$
 (A) 210 (B) 180 (C) 150 (D) 135 (E) 120



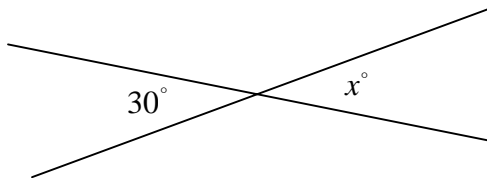
4. In the figure above, $x =$
 (A) 15 (B) 30 (C) 45 (D) 60 (E) 90



5. In the figure above, $x =$
 (A) 15 (B) 30 (C) 45 (D) 60 (E) 90

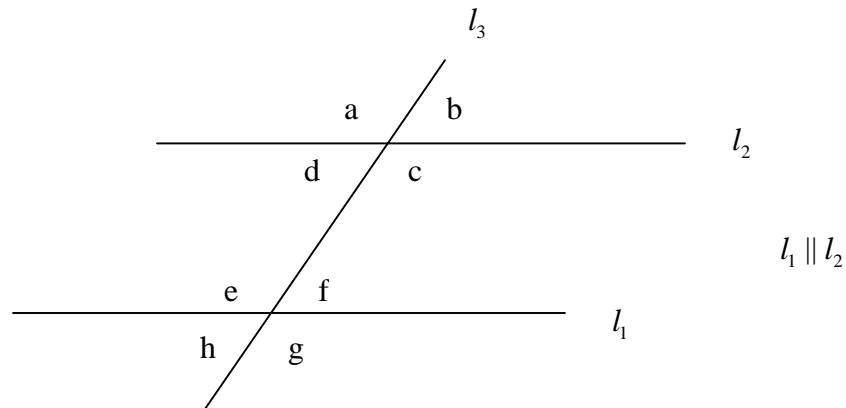


6. In the figure above, $x =$
 (A) 45 (B) 60 (C) 75 (D) 90 (E) 120

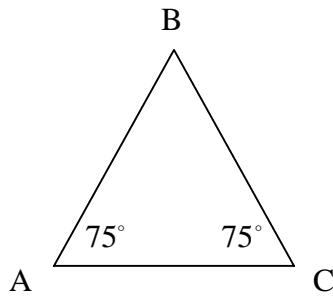


7. In the figure above, $x =$
 (A) 30 (B) 45 (C) 55 (D) 65 (E) 80

Questions 8 through 12 are based on the following figure.



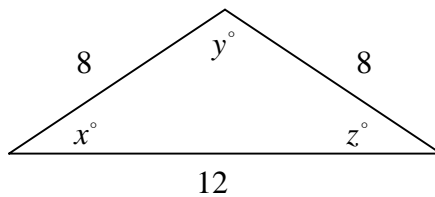
8. Which of the following is (are) necessarily true?
- I. $a = b$
 - II. $a = c$
 - III. $g = h$
- (A) I only (B) II only (C) I and II only (D) II and III only
 (E) I, II, and III
9. Which of the following is (are) necessarily true?
- I. $b = d$
 - II. $d = e$
 - III. $g = c$
- (A) I only (B) III only (C) I and III only (D) II and III only
 (E) I, II, and III
10. Which of the following is (are) necessarily true?
- I. $c + d = 180$
 - II. $e + a = 180$
 - III. $b + g = 180$
- (A) I only (B) III only (C) I and III only (D) II and III only
 (E) I, II, and III
11. If $e = 120$, then $g =$
- (A) 60 (B) 90 (C) 120 (D) 150 (E) 180
12. If $d = 60$, then $h =$
- (A) 60 (B) 90 (C) 120 (D) 150 (E) 180



13. Which of the following is (are) true of the figure above?

- I. $AB = BC$
- II. $BC = AC$
- III. $AC = AB$

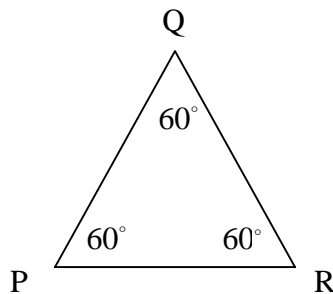
(A) I only (B) II only (C) I and II only (D) I and III only (E) I, II, and III



14. Which of the following is (are) true of the figure above?

- I. $x = y$
- II. $y = z$
- III. $x = z$

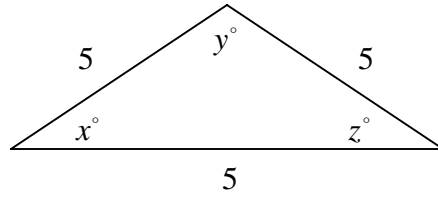
(A) I only (B) II only (C) III only (D) I and II only (E) I, II, and III



15. Which of the following is (are) true of the figure above?

- I. $PQ = QR$
- II. $QR = PR$
- III. $PR = PQ$

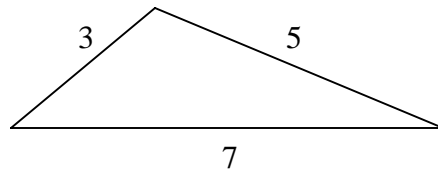
(A) I only (B) III only (C) I and II only (D) II and III only (E) I, II, and III



16. Which of the following is (are) true of the figure above?

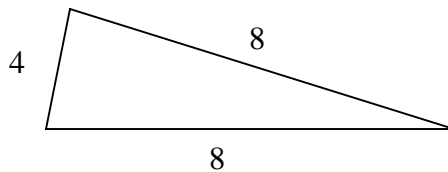
- I. $x = y$
- II. $y = z$
- III. $z = x$

- (A) I only (B) I and II only (C) I and III only (D) II and III only
 (E) I, II, and III



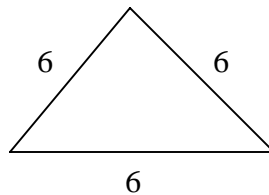
17. What is the perimeter of the triangle above?

- (A) 3 (B) 5 (C) 15 (D) 20 (E) 30



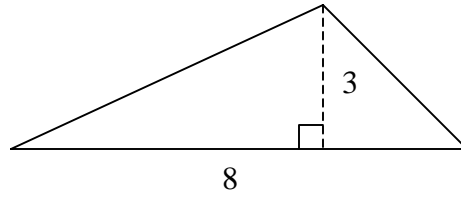
18. What is the perimeter of the triangle above?

- (A) 20 (B) 18 (C) 12 (D) 10 (E) 8

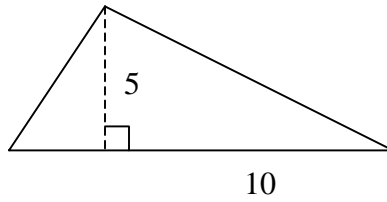


19. What is the perimeter of the triangle above?

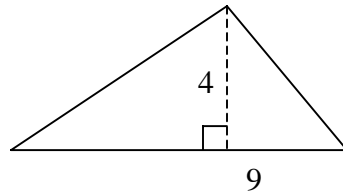
- (A) 6 (B) 12 (C) 18 (D) 21 (E) 24



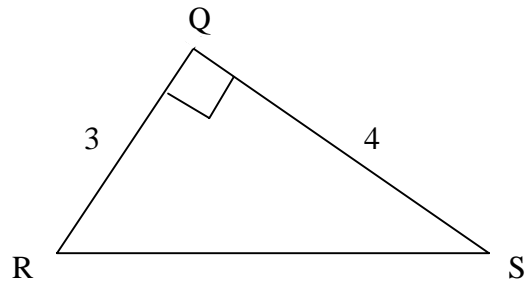
20. What is the area of the triangle above?
 (A) 3 (B) 6 (C) 12 (D) 18 (E) 24



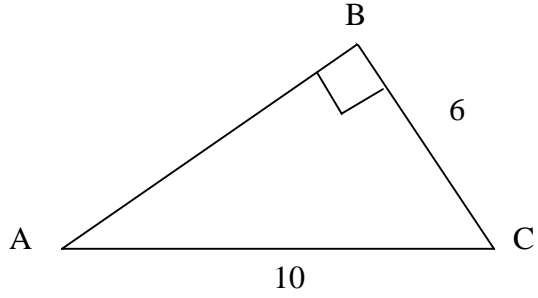
21. What is the area of the triangle above?
 (A) 5 (B) 10 (C) 12 (D) 15 (E) 25



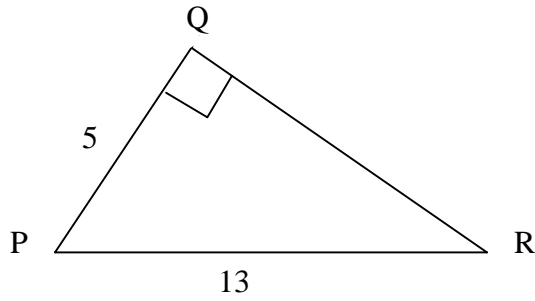
22. What is the area of the triangle above?
 (A) 6 (B) 12 (C) 15 (D) 18 (E) 24



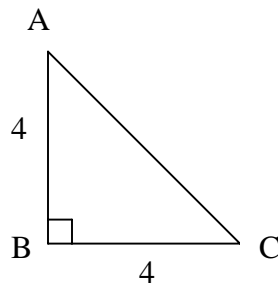
23. In the figure above, what is the length of RS?
 (A) 3 (B) 5 (C) 8 (D) 12 (E) 16



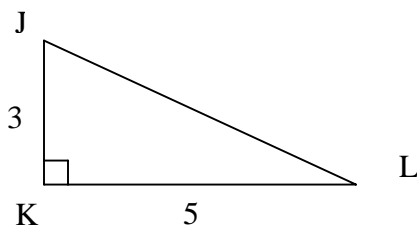
24. In the figure above, what is the length of AB?
 (A) 4 (B) 8 (C) 12 (D) 16 (E) 24



25. In the figure above, what is the length of QR?
 (A) 12 (B) 23 (C) 27 (D) 36 (E) 48

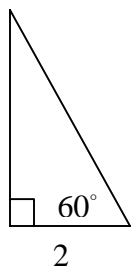


26. In the figure above, what is the length of AC?
 (A) 2 (B) $2\sqrt{2}$ (C) 4 (D) $4\sqrt{2}$ (E) 8



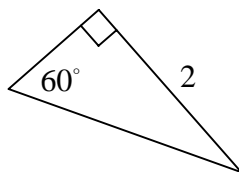
27. In the figure above, what is the length of JL?

- (A) $\sqrt{2}$ (B) $2\sqrt{2}$ (C) 4 (D) $2\sqrt{6}$ (E) $\sqrt{34}$



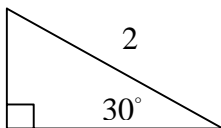
28. What is the perimeter of the figure above?

- (A) 6 (B) $6 + 2\sqrt{3}$ (C) $6 + 3\sqrt{2}$ (D) $8 + 2\sqrt{3}$ (E) $8 + 3\sqrt{2}$



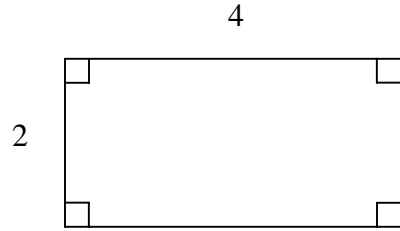
29. What is the perimeter of the figure above?

- (A) $2 + 2\sqrt{3}$ (B) 6 (C) $2 + 3\sqrt{2}$ (D) $4 + 2\sqrt{3}$ (E) $4 + 3\sqrt{2}$

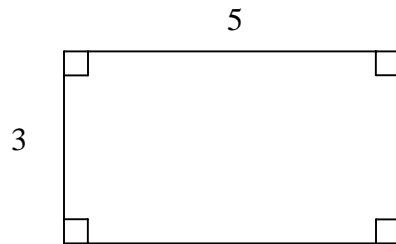


30. What is the perimeter of the figure above?

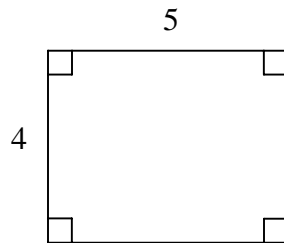
- (A) $6 + 2\sqrt{3}$ (B) $6 + \sqrt{3}$ (C) 6 (D) $3 + \sqrt{3}$ (E) $\sqrt{3}$



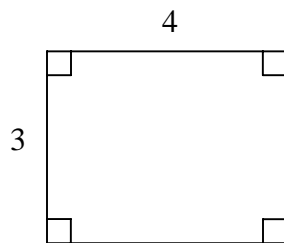
31. What is the perimeter of the figure above?
(A) 6 (B) 8 (C) 10 (D) 12 (E) 16



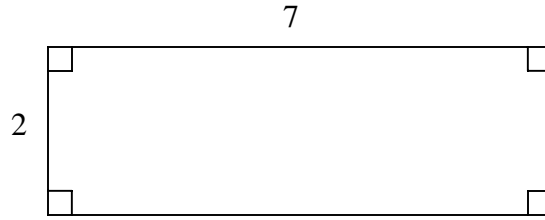
32. What is the perimeter of the figure above?
(A) 8 (B) 12 (C) 14 (D) 15 (E) 16



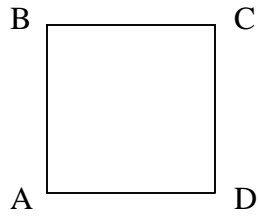
33. What is the area of the figure above?
(A) 10 (B) 15 (C) 16 (D) 18 (E) 20



34. What is the area of the figure above?
(A) 6 (B) 8 (C) 12 (D) 16 (E) 24



35. What is the area of the figure above?
(A) 5 (B) 9 (C) 14 (D) 25 (E) 81



ABCD is a square.

36. In the figure above, if $AB = 5$, what is the area of ABCD?
(A) 5 (B) 10 (C) 20 (D) 25 (E) 40