



GMAT Practice Worksheet: Triangles

Objective: The purpose of this worksheet is to give you practice solving GMAT geometry questions involving triangles (see video: "Geometry - Triangles"). Be sure you know the four most commonly-tested right triangles on the GMAT:

1. 3-4-5
2. 5-12-13
3. 30° - 60° - 90°
4. 45° - 45° - 90°

Directions: Take as much time as you need to solve each problem. Use your textbook and video lessons for reference if necessary. Do not be concerned with time; learning the techniques and relevant math is what is important.

1. A 25-foot ladder is placed against a vertical wall of a building, with the bottom of the ladder standing on concrete 7 feet from the base of the building. If the top of the ladder slips down 4 feet, then the bottom of the ladder will slide out

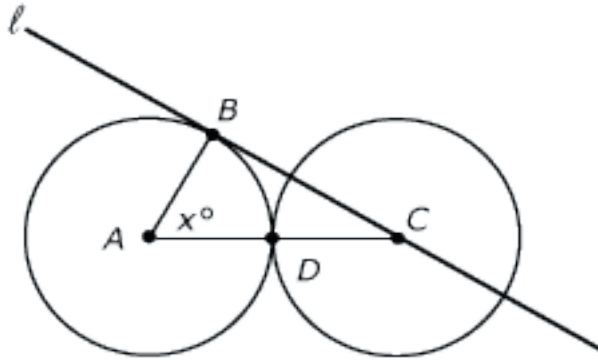
- (A) 4 feet
- (B) 5 feet
- (C) 6 feet
- (D) 7 feet
- (E) 8 feet

2. In triangle ABC , the length of side \overline{BC} is 2 and the length of side \overline{AC} is 12. Which of the following could be the length of side \overline{AB} ?

- (A) 6
- (B) 8
- (C) 10
- (D) 12
- (E) 14

3. Miguel is 180 centimeters tall. At 2:00 p.m. one day, his shadow is 60 centimeters long, and the shadow of a nearby fence post is t centimeters long. In terms of t , what is the height, in centimeters, of the fence post?

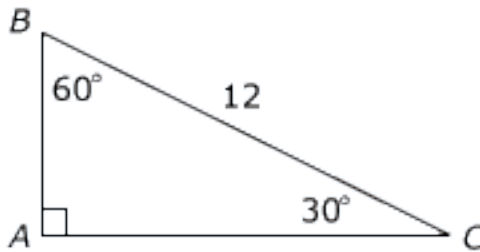
- (A) $t + 120$
- (B) $\frac{t}{3}$
- (C) $3t$
- (D) $3\sqrt{t}$
- (E) $\left(\frac{t}{3}\right)^2$



4.

In the figure above, the circle with center A and the circle with center C are tangent at point D . If the circles each have radius 10, and if line ℓ is tangent to the circle with center A at point B , what is the value of x ?

- (A) 55
- (B) 60
- (C) 63
- (D) 65
- (E) It cannot be determined from the information given.



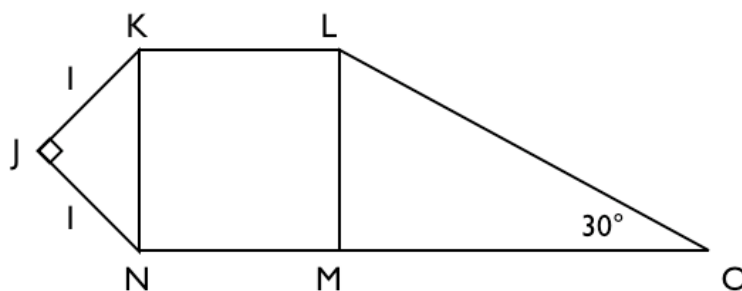
5.

If triangle ABC above is congruent to triangle DEF (not shown), which of the following must be the length of one side of triangle DEF ?

- (A) 18
- (B) 24
- (C) $3\sqrt{6}$
- (D) $6\sqrt{3}$
- (E) It cannot be determined from the information given.

6. A 45° - 45° - 90° right triangle has hypotenuse of length h . What is the area of the triangle in terms of h ?

- (A) $h / \sqrt{2}$
- (B) $h / 2$
- (C) $h / 4$
- (D) $(h)^2 / 2$
- (E) $(h)^2 / 4$



$$KL = LM = MN = NK$$

7.

In the figure above, what is the length of LO ?

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

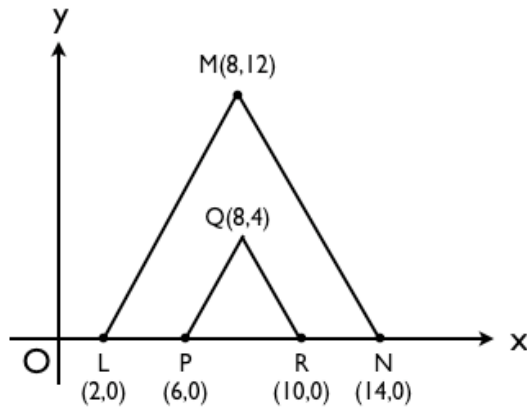
8. What are the angles of triangle XYZ?

- (1) One of the interior angles of the triangle is 120
- (2) One of the exterior angles of the triangle is 165

- (A) Statement (1) BY ITSELF is sufficient to answer the questions, but statement (2) by itself is not.
- (B) Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- (C) Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- (D) Either statement BY ITSELF is sufficient to answer the question.
- (E) Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

9. A spotlight on the ceiling is 5 feet from one wall of a room and 10 feet from the wall at right angles to it. How many feet is it from the intersection of the two walls?

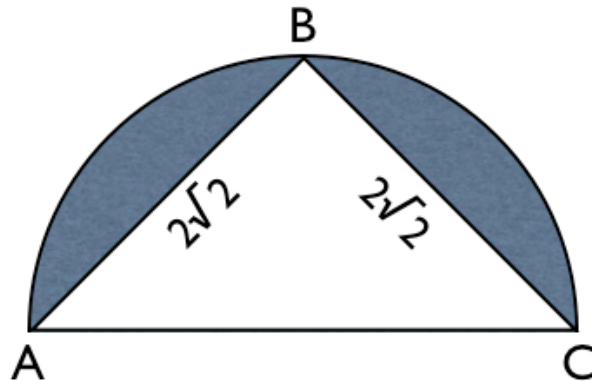
- (A) 15
- (B) $5\sqrt{2}$
- (C) $5\sqrt{5}$
- (D) $10\sqrt{2}$
- (E) $10\sqrt{5}$



10.

In the rectangular coordinate system above, the area of triangle PQR is what fraction of the area of triangle LMN?

- (A) $1/9$
- (B) $1/8$
- (C) $1/6$
- (D) $1/5$
- (E) $1/3$



11.

Triangle ABC is inscribed in a semicircle. What is the area of the shaded region above?

- (A) $2\pi - 2$
- (B) $2\pi - 4$
- (C) $4\pi - 4$
- (D) $8\pi - 4$
- (E) $8\pi - 8$

12. GMAT Review Official Guide, 13th Ed., p.175 #165

GMAT Triangles Worksheet: **ANSWER KEY**

Note: Video answer explanations for each question on this worksheet can be found under the “Worksheets” heading on your back-end member page. If you still have questions about certain problems after watching the solution videos, contact your instructor or send an e-mail to info@dominatethegmat.com.

1. E

2. D

3. C

4. B

5. D

6. E

7. B

8. C

9. C

10. A

11. B

12. E