MATHS

BOOKS - INDEPENDENTLY PUBLISHED MATHS (ENGLISH)

TRIANGLE TRIGONOMETRY

Example

1. Solve ΔABC if $m\angle A = 45^\circ, m\angle B = 57^\circ, a = 4.$

2. Solve $\triangle ABC$ if $a = 7, b = 12, m\angle C = 62°$

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3. Sovle $\triangle ABC$ if $a = 3, b = 5, c = 7$.

4. Sovle $\triangle ABC$ if $m\angle A = 125°$, $a = 10$, $b = 8$.

5. Sovle $\triangle ABC$ if $m\angle A = 90°$, $a = 7$, $b = 5$.

6. Solve $\triangle ABC$ if $m\angle A = 50°$, $a = 3$, $b = 5$.

7. Solve $\triangle ABC$ if $m\angle A = 50°$, $a = 7$, $b = 5$.

8. Solve $\triangle ABC$ if $m\angle A = 50°$, $a = 4$, $b = 5$.

9. Find the area of the triangle if $m\angle A = 62°$, $b = 6$, $c = 12$.

Exercises

1. the exact value of $\tan(-60°)$ is

A. $-\sqrt{3}$

B. -1

C. $-\dfrac{2}{\sqrt{3}}$

D. $-\dfrac{\sqrt{3}}{2}$

Answer: A

2. The exact value of $\cos\dfrac{3\pi}{4}$ is

   A. -1

   B. $-\dfrac{\sqrt{3}}{2}$

   C. $-\dfrac{\sqrt{2}}{2}$

   D. $-\dfrac{1}{2}$.

Answer: C

3. Csc $540°$ is

A. 0

B. $-\sqrt{3}$

C. $-\sqrt{2}$

D. undefined

Answer: D

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4.

$\triangle ABC, \angle A = 30°, b = 8,$ and $a = 4\sqrt{2},$

angle C could equal

A. $45°$

B. $135°$

C. $60°$

D. $15°$

Answer: D

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5. In $\triangle ABC$, $\angle A = 30°$, $a = 6$ and $c = 8$.

Which of the following must be true?

   A. $0° < \angle C < 90°$

   B. $90° < \angle C < 135°$

   C. $45° < \angle C < 135°$

   D. $0° < \angle C < 45°$ or

       $135° < \angle C < 180°$

Answer: D

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6. The angles of a triangle are in a ratio of 8:3:1. the ratio of the longest side of the triangle to the next longest side is

A. $\sqrt{6} : 2$

B. $8 : 3$

C. $\sqrt{3} : 1$

D. $8 : 5$

Answer: A

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7. The sides of a triangle are in a ratio of 4:5:6.

the smallest angle is

A. $82°$

B. $69°$

C. $56°$

D. $41°$

Answer: D

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8. Find the length of the longer diagonal of a parallelogram if the sides are 6 inches and 8 inches and the smaller angle is $60°$

A. 8

B. 11

C. 12

D. 7

Answer: C

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9. What are all values of side a in the figure below such that two triangles can be constructed?

A. $a > 4\sqrt{3}$

B. $a > 8$

C. $a = 4\sqrt{3}$

D. $4\sqrt{3} < a < 8$

Answer: D

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10.

$\triangle\ ABC,\ \angle B = 30°,\ \angle C = 105°,\ \text{and } b = 10$

. The length of side a equals.

A. 7

B. 9

C. 10

D. 14

Answer: D

11. The area of $\triangle ABC$, $= 24\sqrt{3}$, side a=6, annd side b=16. the value of $\angle C$ is

A. $30°$

B. $30°$ or $150°$

C. $60°$

D. $60°$ or $120°$

Answer: D

12. The area off $\triangle ABC = 12\sqrt{3}$, side $a = 6$, and side $b = 9$ side c=

A. $2\sqrt{37}$

B. $2\sqrt{13}$

C. $2\sqrt{37}$ or $2\sqrt{13}$

D. 10

Answer: C

13. Given the following data which, can form two triangles?

I. $\angle C = 30°$, $c = 8$, $b = 12$

II. $\angle B = 45°$, $a = 12\sqrt{2}$, $b = 12\sqrt{2}$

III. $\angle C = 60°$, $b = 12$, $c = 5\sqrt{3}$

    A. only I

    B. only II

C. only III

D. only I and II

Answer: A

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