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MATHS

BOOKS - UNITED BOOK HOUSE

Pythagoras Theorem

Exercise

1. Multiple Choice Questions (MCQ) In $\triangle ABC, \angle BAC = 90^\circ$. If AD is per pendicular to BC, then

A. $AD^2 = BD.\ DC$

B. $AD^2 = AB.\ AC$

C. $AD^2 = BD^2 + DC$

D. AD = BD . DC.

Answer:

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2. If the diagonals of a rhombus are 64cm and 48cm, then the perimeter of the rhombus is

A. 120cm.

B. 160cm.

C. 40cm.

D. 102cm.

Answer:

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3. In $\triangle XYZ$, If $\angle XYZ = 90^\circ$, XZ = 100cm and XY = 80cm., then length of YZ is

A. 40cm.

B. 60cm.

C. 80cm.

D. none of these.

Answer:

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4. In $\triangle ABC$, the perpendicular from A upon BC intersects BC at D. If BD = 16., DC = 4cm and AD = 8cm., then $\angle BAC$ =

A. 30°

B. 60°

C. 45°

D. 90°

Answer:

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5. PQ is a diameter of a semicircle with radius 7.5 cm. and $\angle PQR$ is the angle on the semicircle. If PR = 9cm. Then the length of QR is

A. 6cm.

B. 12cm.

C. 8cm.

D. 8.5cm.

Answer:

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6. If the angles of a triangle are in ratio 1 : 1 : 2, then the ratio of the sides of the triangle is

A. $2:2:\sqrt{3}$

B. $1:1:\sqrt{2}$

C. $1:1:\sqrt{2}$

D. $1:1:\sqrt{3}$

Answer:

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7. In $\triangle ABC$, if AD is the median and $\angle ABC = 90^\circ$, then AC^2 =

A. $AD^2 . BD^2$

B. $AD^2 + BD^2$

C. $AD^2 + 2BD^2$

D. $AD^2 + 3BD^2$.

Answer:

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8. If the three sides of a triangle are $\left(a^2 + b^2\right)$ cm., $\left(a^2 - b^2\right)$ cm. and 2ab cm., then the greatest angle of the triangle is

A. 100°

B. 110°

C. 90°

D. 120°

Answer:

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9. In a right angled triangle the ratio of the smaller sides is 3 : 4. If the length of greatest

side is 20cm., then the length of the smallest side is

A. 8cm.

B. 9cm.

C. 10cm.

D. 12cm.

Answer:

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10. In $\triangle ABC, \angle A = 90^\circ$. The perpendicular from A upon BC meets. BC at D. If BC = 9cm., BD = 4cm., then the length of AB is

A. 6cm.

B. 8cm.

C. 10cm.

D. 12cm.

Answer:

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11. Two poles of the height 6 m and 11 m stand vertically upright on a plane ground. If the distance between their foot is 12, the distance between their tops is___

A. 11 m

B. 12 m

C. 13 m

D. 14 m

Answer:

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12. In a $\triangle ABC$, $\triangle A = 90^\circ$, AB = 5 cm and AC = 12 cm. If $AD \perp BC$, then AD is equal to____

A. 13/2 cm

B. 60/13 cm

C. 13/60 cm

D. $\frac{2\sqrt{15}}{13} cm$

Answer:

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13. In an equiliteral triangle ABC, if $AD \perp BC$, then___

A. $2AB^2 = 3AD^2$

B. $4AB^2 = 3AD^2$

C. $3AB^2 = 4AD^2$

D. $3AB^2 = 2AD^2$

Answer:

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14. If the measures of the sides of triangle are $(x^2-1), (x^2+1)$ and 2x cm, then the triangle would be___

A. equilateral

B. isosceles

C. acute angled

D. right angled

Answer:

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15. If the sides of a right angled triangle are three cosecutive integers, then the length of smallest side is____

A. 3 units

B. 2 units

C. 4 units

D. 5 units

Answer:

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16. ABC is a right angled triangle, right angled at B such that BC = 6 cm and AB = 8 cm. A circle with centre O is inscribed in $\triangle ABC$. The radius of the circle is____

A. 1 cm

B. 2 cm

C. 3 cm

D. 4 cm

Answer:

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17. A point D is taken from the side BC of a right angled triangle ABC, where AB is hypotensuse. Then___

A. $AB^2 + CD^2 = BC^2 + AD^2$

B. $CD^2 + BD^2$

C. $AB^2 + AC^2 = 2AD^2$

D. $AB^2 = AD^2 + BD^2$

Answer:

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18. ABC is a right angled triangle , right angled at C and P is the length of perpendicular from C on AB. If a, b and C are the length of sides BC, CA and AB respectively. Then___

A. $\frac{1}{p^2} = \frac{1}{b^2} - \frac{1}{a^2}$

B. $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$

C. $\frac{1}{p^2} + \frac{1}{a^2} + \frac{1}{b^2}$

D. $\frac{1}{p^2} = \frac{1}{a^2} - \frac{1}{b^2}$

Answer:

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19. $\triangle ABC$ is an isosceles triangle in which $\angle C = 90^\circ$. If AC = 6 cm, then AB is equal___

A. $6\sqrt{2}$ cm

B. 6 cm

C. $2\sqrt{6}$ cm

D. $4\sqrt{2}$ cm

Answer:

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20. In an isosceles triangle ABC, if AB = AC = 25 cm and BC = 14 cm, then the measure of altitude from A on BC is____

A. 20 cm

B. 22 cm

C. 18 cm

D. 24 cm

Answer:

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21. If $\triangle ABC$ is an equilateral triangle such that $AD \perp BC$, then AD^2 =

A. $\frac{3}{2}DC^2$

B. $2DC^2$

C. $3CD^2$

D. $4DC^2$

Answer:

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22. In a $\triangle ABC$, perpendicular AD from A on BC meets BC at D. If BD = 8 cm, DC = 2 cm and AD = 4 cm, then___

A. $\triangle ABC$ is isosceles

B. $\triangle ABC$ is equilaterial

C. AC = 2AB

D. $\triangle ABC$ is right-angled at A

Answer:

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23. If ABC is an isosceles triangle and D is a point on BC such that $AD \perp BC$, then____

A. $AB^2 - AD^2 = BD.DC$

B. $AB^2 - AD^2 = BD^2 - DC^2$

C. $AB^2 + AD^2 = BD.DC$

D. $AB^2 + AD^2 = BD^2 - DC^2$

Answer:

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24. If ABC is a right triangle right-angled at B and M, N are the midpoints of AB and BC respectively. Then 4 $\left(AN^2 + CM^2\right)$ =

A. $4AC^2$

B. $5AC^2$

C. $\frac{5}{4}AC^2$

D. $6AC^2$

Answer:

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25. If E is a point on side CA of an equilateral triangle ABC such that $BE \perp CA$, then $AB^2 + BC^2 + CA^2$ is equal to___

A. $2BE^2$

B. $3BE^2$

C. $4BE^2$

D. $6BE^2$

Answer:

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26. In a right triangle ABC right-angled at B, if P and Q are points on the side AB and AC respectively, then___

A. $AQ^2 + CP^2 = 2(AC^2 + PQ^2)$

B. $2(AQ^2 + CP^2) = AC^2 + PQ^2$

C. $AQ^2 + CP^2 = AC^2 + PQ^2$

D. AQ + CP = 1/2 (AC + PQ)

Answer:

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27. $\triangle ABC$ is a right triangle right angled at A and $AD \perp BC$. Then BD/DC is equal___

A. $\left(\frac{AB}{AC}\right)^2$

B. AB/AC

C. $\left(\frac{AB}{AD}\right)^2$

D. AB/AD

Answer:

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28. A man goes 24 m due west and then 7 m due north. How far is he from the starting point?

A. 31m

B. 17 m

C. 25 m

D. 26 m.

Answer:

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