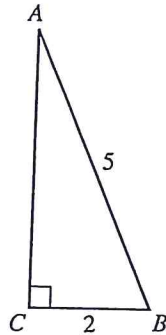


49. What is the value of $\log_2 8$?

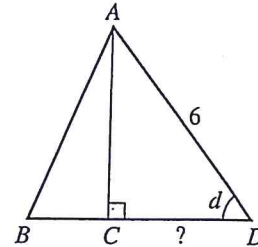
- A. 3
- B. 4
- C. 6
- D. 10
- E. 16

50. In the right triangle below, the measure of $\angle C$ is 90° , $AB = 5$ units, and $CB = 2$ units. What is $\tan B$?

- F. $\frac{\sqrt{21}}{2}$
- G. $\frac{3}{2}$
- H. $\frac{\sqrt{21}}{5}$
- J. $\frac{3}{5}$
- K. $\frac{2}{5}$



52. In $\triangle ABD$, shown below, C is on \overline{BD} , the length of \overline{AD} is 6 inches, and $\sin d = 0.8$. How many inches long is \overline{CD} ?



- F. 1.2
- G. 1.8
- H. 3.6
- J. 4.8
- K. Cannot be determined from the given information

53. For real numbers a and b , when is the equation $|a + b| = |a - b|$ true?

- A. Always
- B. Only when $a = b$
- C. Only when $a = 0$ and $b = 0$
- D. Only when $a = 0$ or $b = 0$
- E. Never

51. A flight instructor charges \$50 per lesson, plus an additional fee for the use of his plane. The charge for the use of the plane varies directly with the square root of the time the plane is used. If a lesson plus 16 minutes of plane usage costs \$90, what is the total amount charged for a lesson having 36 minutes of plane usage?

- A. \$185
- B. \$150
- C. \$135
- D. \$110
- E. \$ 60

ALG 2 BELLWORK

WED

FEB 25, 2015

Answers

49. What is the value of $\log_2 8$?

- * A. 3
- B. 4
- C. 6
- D. 10
- E. 16

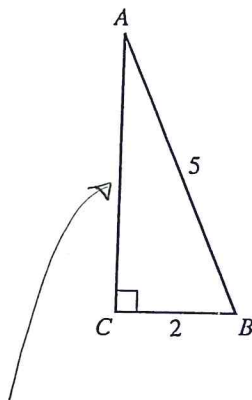
$$\log_2 8 = x$$

↓

$$2^x = 8$$

50. In the right triangle below, the measure of $\angle C$ is 90° , $AB = 5$ units, and $CB = 2$ units. What is $\tan B$?

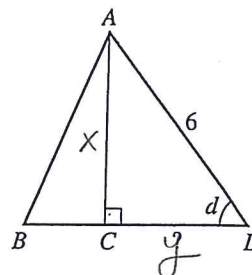
- * F. $\frac{\sqrt{21}}{2}$
- G. $\frac{3}{2}$
- H. $\frac{\sqrt{21}}{5}$
- J. $\frac{3}{5}$
- K. $\frac{2}{5}$



$$\sqrt{5^2 - 2^2} = \sqrt{21}$$

$$\tan B = \frac{\text{opp leg}}{\text{adj leg}} = \frac{\sqrt{21}}{2}$$

52. In $\triangle ABD$, shown below, C is on \overline{BD} , the length of \overline{AD} is 6 inches, and $\sin d = 0.8$. How many inches long is \overline{CD} ?



$$\sin d = \frac{\text{opp}}{\text{hyp}}$$

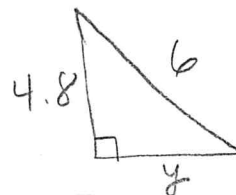
$$\sin d = \frac{x}{6}$$

$$0.8 = \frac{x}{6}$$

$$x = 4.8$$

- F. 1.2
- G. 1.8
- * H. 3.6
- J. 4.8
- K. Cannot be determined from the given information

$$y = \sqrt{6^2 - 4.8^2}$$



$$y = 3.6$$

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- C. \$135
- * D. \$110
- E. \$60

$$T = 50 + k\sqrt{t}$$

$$90 = 50 + k\sqrt{16}$$

$$-50 \quad -50$$

$$40 = k \cdot 4$$

$$10 = k$$

$$T = 50 + 10\sqrt{t}$$

$$50 + 10\sqrt{36} = 50 + 10(6) = 50 + 60 = 110$$