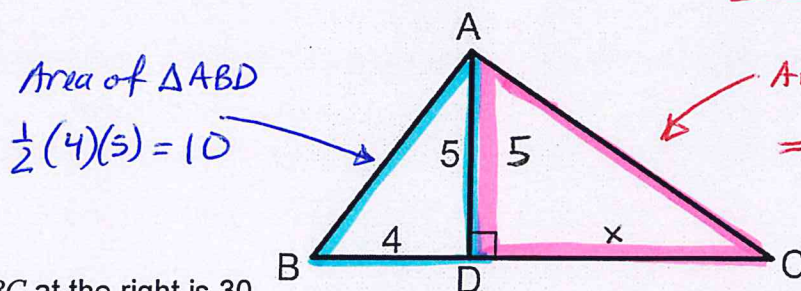


1. If the area of $\triangle ABC$ at the right is 30, what is the length of DC ? A) 2 B) 4 C) 6 D) 8 E) 12

2. If $a = 5\sqrt{2}$ and $2a = \sqrt{2x}$, what is the value of x ?

3. A bakery uses a special flour mixture that contains corn, wheat, rye in the ratio 3 : 5 : 2. If a bag of the mixture contains 5 pounds of rye how many pounds of wheat does it contain?
A. 2 B. 5 C. 7.5 D. 10 E. 12.5

ANSWERS



1. If the area of $\triangle ABC$ at the right is 30, what is the length of DC ? A) 2 B) 4 C) 6 D) 8 E) 12

$$\begin{aligned} \text{Area of } \triangle ADC &= \text{area } \triangle ABC - \text{area } \triangle ABD \\ &= 30 - 10 \end{aligned}$$

$$\text{area } \triangle ADC = 20$$

$$\begin{aligned} 2 \cdot 20 &= \frac{1}{2} (x)(5) \cdot 2 \\ 40 &= (x)(5) \\ \frac{40}{5} &= \frac{(x)(5)}{5} \end{aligned}$$

$$x = 8$$

2. If $a = 5\sqrt{2}$ and $2a = \sqrt{2x}$, what is the value of x ?

$$\begin{aligned} 2(5\sqrt{2}) &= \sqrt{2x} \\ (10\sqrt{2})^2 &= (\sqrt{2x})^2 \end{aligned}$$

$$100 \cdot 2 = 2x$$

$$\frac{200}{2} = \frac{2x}{2}$$

$$x = 100$$

3. A bakery uses a special flour mixture that contains corn, wheat, rye in the ratio 3 : 5 : 2. If a bag of the mixture contains 5 pounds of rye how many pounds of wheat does it contain?

A. 2 B. 5 C. 7.5 D. 10 E. 12.5

$$\text{corn : wheat : rye} = 3 : 5 : 2$$

$$\frac{w}{r} = \frac{5}{2}$$

$$\frac{w}{5} = \frac{5}{2}$$

cross multiply

$$w = 12.5$$