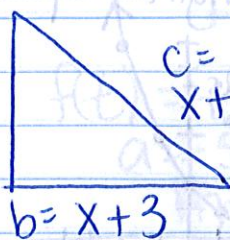


#13-16 EOC

X = smallest leg

(13)
a = X



c = X + 6

$$a^2 + b^2 = c^2$$

$$x^2 + (x+3)^2 = (x+6)^2$$

$$x^2 + x^2 + 6x + 9 = x^2 + 12x + 36$$

$$2x^2 + 6x + 9 = x^2 + 12x + 36$$

$$-x^2 - 12x - 36 = -x^2 - 12x - 36$$

$$(x+3)^2 = (x+3)(x+3)$$

$$x^2 + 3x + 3x + 9$$

$$x^2 + 6x + 9$$

$$x^2 - 6x - 27 = 0 \quad \leftarrow x^2 \text{ term,}$$

$$(x-9)(x+3) = 0 \quad \text{so to solve}$$

$$x-9=0$$

$$x+3=0$$

use factoring

$$\frac{+9 \quad +9}{x=9}$$

$$\frac{+3 \quad -3}{x=-3}$$

or quadratic formula

cannot have a negative length

(14)

Katie

Jennifer

100

100

End of 1st 200

300

End of 2nd 400

500

End of 3rd 800

700

↑

Katie has more at the start of the 4th Turn.

(15)

Alex

Sally

$$\rightarrow 3520 \text{ yd} \div 1760 \text{ yd} = 2 \text{ miles}$$

1 mile

2 miles

15 min.

24 min.

* Change to mph *

$$\text{Alex} = \frac{1 \text{ mile} \times 4}{15 \text{ min} \times 4} = \frac{4 \text{ miles}}{60 \text{ min}}$$

$$\text{Sally} = \frac{2 \text{ miles}}{24 \text{ min}} \rightarrow \frac{x}{60 \text{ min}}$$

$$\frac{2 \cdot 60}{24} = \frac{24x}{24}$$

$$\text{Alex} = 4 \text{ mph}$$

$$\text{Sally} = 5 \text{ mph} \leftarrow \boxed{1 \text{ mph faster}}$$

$$5 \text{ miles} = x$$

$$\textcircled{16} \quad \sqrt[3]{8x^2y^3z^4} = \sqrt[3]{8^1 \cdot \sqrt[3]{x^2} \cdot \sqrt[3]{y^3} \cdot \sqrt[3]{z^4}}$$
$$= 2x^{\frac{2}{3}}y^{\frac{3}{3}}z^{\frac{4}{3}}$$

Rational \rightarrow

exponents:
exponent of
base becomes
the numerator
and number
inside radical
becomes denominator.

\textcircled{B}