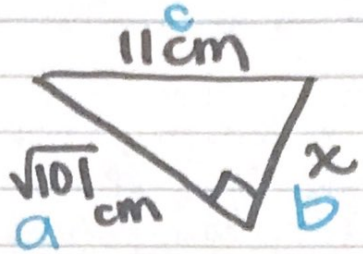
① 

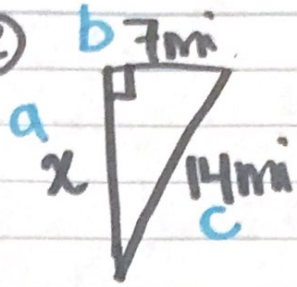
$\sqrt{101}^2 + x^2 = 11^2$

$101 + x^2 = 121$

$x^2 = 20$

$x = \sqrt{20} = \boxed{2\sqrt{5}\text{cm}}$ simplest form

$\approx 4.5\text{cm}$

② 

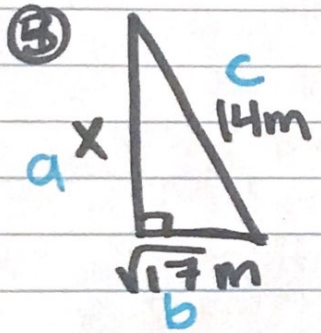
$x^2 + 7^2 = 14^2$

$x^2 + 49 = 196$

$x^2 = 147$

$x = \sqrt{147} = \boxed{7\sqrt{3}\text{ mi}}$ simplest form

$\approx 12.1\text{mi}$

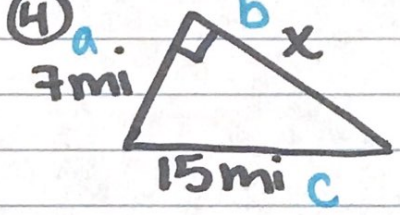
③ 

$x^2 + \sqrt{17}^2 = 14^2$

$x^2 + 17 = 196$

$x^2 = 179$

$x = \boxed{\sqrt{179}\text{ m}} \approx 13.4\text{m}$ simplest form

④ 

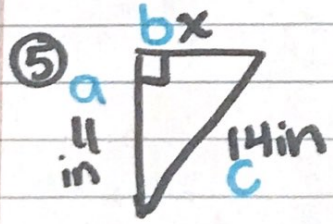
$7^2 + x^2 = 15^2$

$49 + x^2 = 225$

$x^2 = 176$

$x = \sqrt{176} = \boxed{4\sqrt{11}\text{ mi}}$ simplest form

$\approx 13.3\text{mi}$

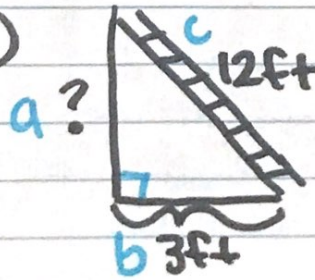
⑤ 

$11^2 + x^2 = 14^2$

$121 + x^2 = 196$

$x^2 = 75$

$x = \sqrt{75} = \boxed{5\sqrt{3}\text{ in}} \approx 8.7\text{m}$ simplest form

⑥ 

$x^2 + 3^2 = 12^2$

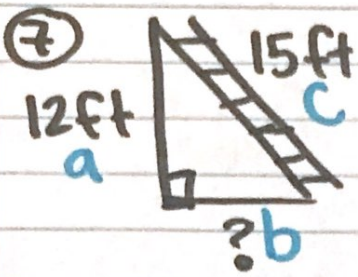
$x^2 + 9 = 144$

$x^2 = 135$

$x = \sqrt{135} = \boxed{3\sqrt{15}\text{ ft}}$ simplest form

$\approx 11.6\text{ft}$

⑦



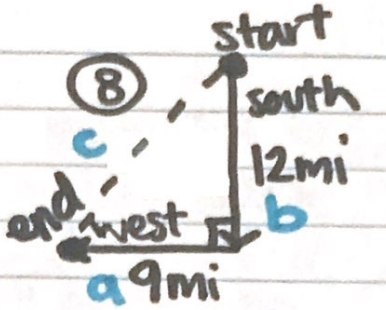
$12^2 + x^2 = 15^2$

$144 + x^2 = 225$

$x^2 = 81$

$x =$ **9ft**

⑧



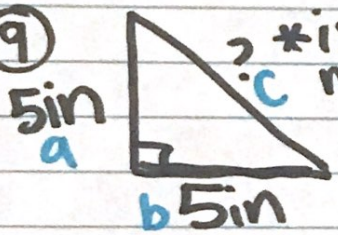
$9^2 + 12^2 = c^2$

$81 + 144 = c^2$

$225 = c^2$

$c =$ **15 miles**

⑨



*isosceles triangle means 2 sides are the same length

$5^2 + 5^2 = c^2$

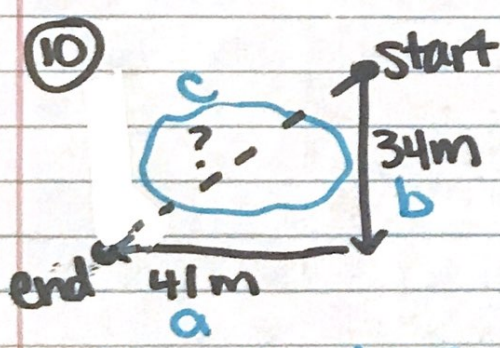
$25 + 25 = c^2$

$50 = c^2$

$c = \sqrt{50} \approx$ **7 in**

$5\sqrt{2}$ to the nearest inch.

⑩



$41^2 + 34^2 = c^2$

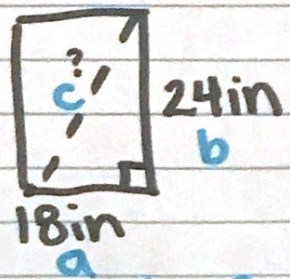
$1681 + 1156 = c^2$

$2837 = c^2$

$c \approx 53.26$ m

He walked 75m. Could have saved **≈ 22m**

⑪



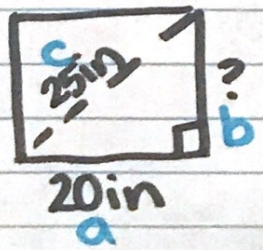
$18^2 + 24^2 = c^2$

$324 + 576 = c^2$

$900 = c^2$

$c =$ **30 inches**

⑫



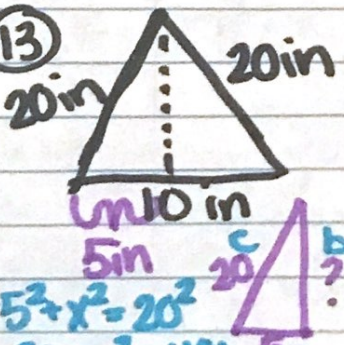
$20^2 + x^2 = 25^2$

$400 + x^2 = 625$

$x^2 = 225$

$x =$ **15 inches**

⑬



$5^2 + x^2 = 20^2$

$25 + x^2 = 400$

$x^2 = 375$

$x = \sqrt{375} \approx$ **19.4in**