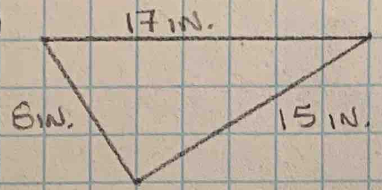
SECTION 9.6
8, 10, 15, 17, 18, 22, 27

BEN WILSON
PER 3
3/29/20

8)



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

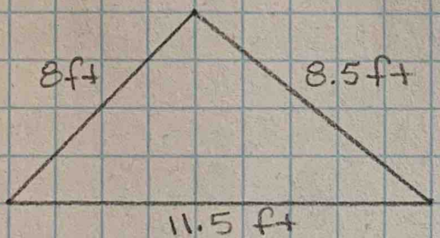
$(8)^2+(15)^2 \stackrel{?}{=} (17)^2$

$64+225 \stackrel{?}{=} 289$

$289 = 289$ ☺

$\boxed{\text{YES, THIS IS A RIGHT TRIANGLE.}}$

10)



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

$(8)^2+(8.5)^2 \stackrel{?}{=} (11.5)^2$

$64+72.25 \stackrel{?}{=} 132.25$

$136.25 \neq 132.25$ ☹

$\boxed{\text{NO, THIS IS NOT A RIGHT TRIANGLE.}}$

15) IF ALL 3 SIDES OF THE TRAFFIC SIGN ARE 12.6 INCHES, IT CAN'T BE A RIGHT TRIANGLE BECAUSE THERE IS NO *LONGEST SIDE* TO BE THE HYPOTENUSE.

IT IS AN EQUILATERAL TRIANGLE, NOT A RIGHT TRIANGLE.

17) $4, \sqrt{15}, 6$

$\downarrow$

≈ 3.87

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

$(4)^2+(\sqrt{15})^2 \stackrel{?}{=} (6)^2$

$16+15 \stackrel{?}{=} 36$

$31 \neq 36$

NO, THESE SIDE LENGTHS DO NOT FORM A RIGHT TRIANGLE.

18) $\sqrt{18}, \sqrt{24}, \sqrt{42}$

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

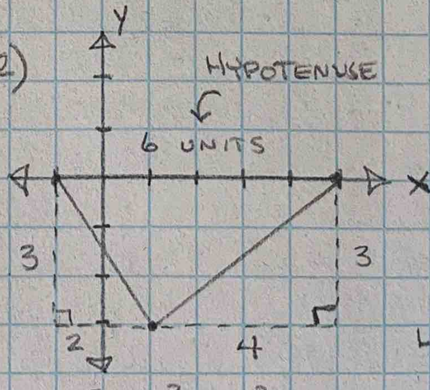
$(\sqrt{18})^2+(\sqrt{24})^2 \stackrel{?}{=} (\sqrt{42})^2$

$18+24 \stackrel{?}{=} 42$

$42 = 42$ ☺

$\boxed{\text{YES, THESE SIDE LENGTHS FORM A RIGHT TRIANGLE.}}$

22)



(-1,0), (5,0), (2,-3)

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

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

$9+4=c^2$

$\sqrt{13}=\sqrt{c^2}$

LEG $\rightarrow c=\sqrt{13}$

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

$(3)^2+(4)^2=c^2$

$9+16=c^2$

$\sqrt{25}=\sqrt{c^2}$

LEG $\rightarrow c=5$

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

$(\sqrt{13})^2+(5)^2 \stackrel{?}{=} (6)^2$

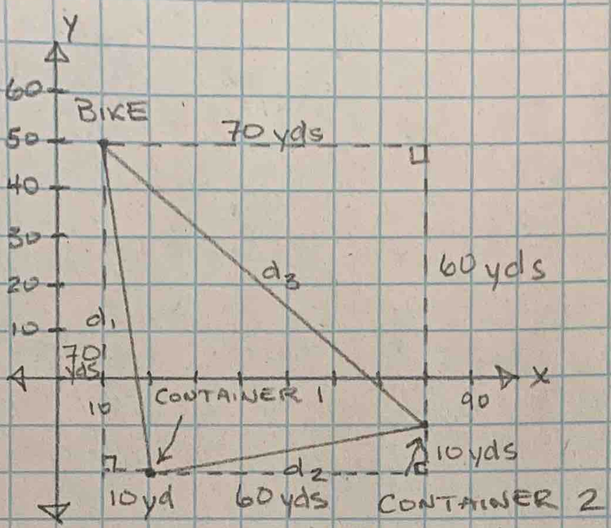
$13+25 \stackrel{?}{=} 36$

$38 \neq 38$ ☹

$\boxed{\text{NO, THE POINTS DO NOT FORM A RIGHT TRIANGLE.}}$

\#27

27)



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

$(70)^2 + (10)^2 = c^2$

$4900 + 100 = c^2$

$\sqrt{5000} = \sqrt{c^2}$

$c = \sqrt{5000}$

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

$(10)^2 + (60)^2 = c^2$

$100 + 3600 = c^2$

$\sqrt{3700} = \sqrt{c^2}$

$c = \sqrt{3700}$

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

$(70)^2 + (60)^2 = c^2$

$4900 + 3600 = c^2$

$\sqrt{8500} = \sqrt{c^2}$

$c = \sqrt{8500}$

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

$(\sqrt{5000})^2 + (\sqrt{3700})^2 \overset{?}{=} (\sqrt{8500})^2$

$5000 + 3700 \overset{?}{=} 8500$

$8700 \neq 8500$

$\boxed{\text{NO, MY PATH DOES NOT FORM A RIGHT TRIANGLE.}}$