AP3 Geometry Review 2021-2022

Name _____ Date _____

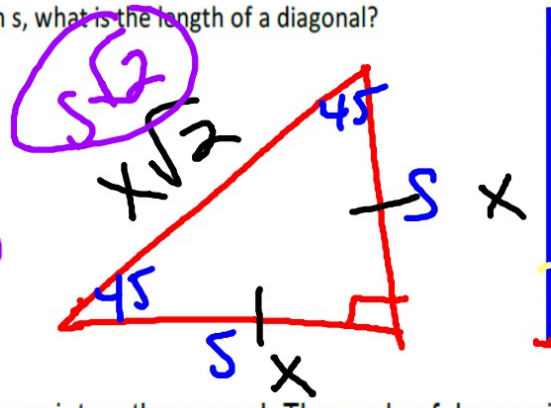
1. In a square of side length s, what is the length of a diagonal?

A) $\frac{1}{2}s$

B) $2s$

C) $\sqrt{s}$

D) $s\sqrt{2}$



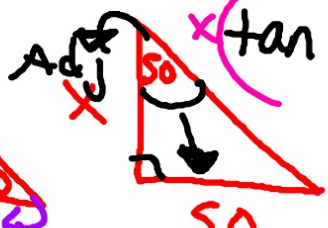
2. A flagpole is 50 feet from a point on the ground. The angle of depression from the top of the flagpole to the same point on the ground is 40°. Calculate the height of the flagpole to the nearest foot.

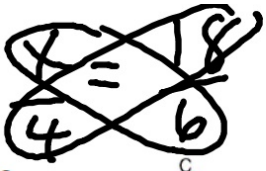
a. 32 feet

b. 38 feet

c. 42 feet

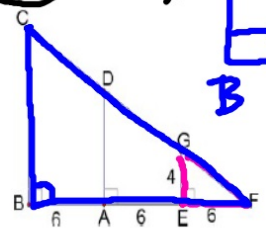
d. 60 feet

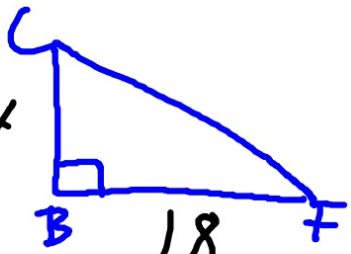


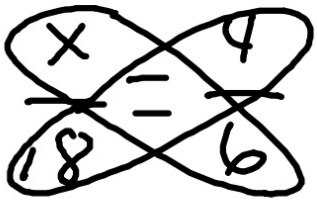


3. Solve for BC

a. 12
b. 10
c. 8
d. 6



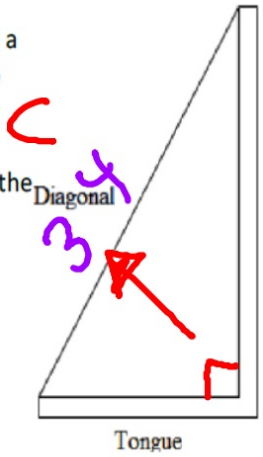




18

$\frac{72}{6} = \frac{6x}{6}$ $x = 12$

4. A carpenter is using a tool called a steel square, which has a shorter arm, known as a tongue, and a longer arm, known as a blade, that are perpendicular. The distance from the end of the tongue to the end of the blade is referred to as the diagonal as shown.



If the length of the tongue is 16 inches and the length of the diagonal is 34 inches, what is the length of the blade?

a. 20 in
b. 25 in
c. 30 in
d. 35 in

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

$x^2 + 16^2 = 34^2$

$x^2 + 256 = 1156$

$-256 \quad -256$

$x^2 = 900$

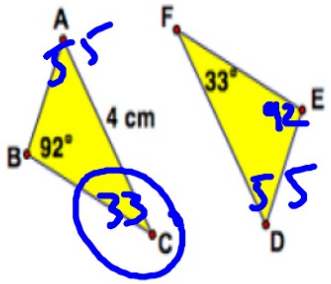
$x = \sqrt{900}$

$x = 30$

ABC ~ DEF

5. Determine the measure of angle C.

A) 33°
B) 55°
C) 88°
D) 92°

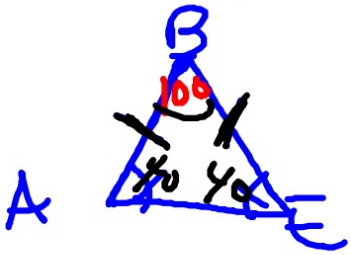


92+33 = 125
180−125
55

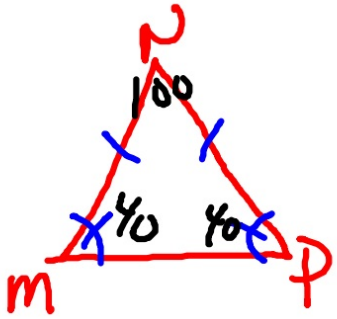
6. Given ΔABE is an isosceles triangle with ∠ABE = 100° and ΔMNP is an isosceles triangle with one base angle measuring 40°. Are the two triangles, ΔABE and ΔMNP similar? If so, by what criterion?

SS
AS
SA
AS

a. yes, by AA criterion
b. yes, by SAS criterion
c. ~~yes, by SSA criterion~~
d. ~~no, not possible to tell~~.



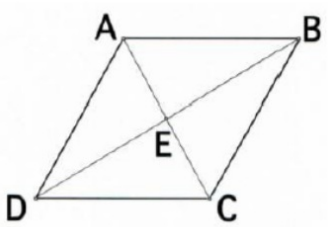
180−100 = 80/2



40+40
180−
100

7. The quadrilateral shown is a rhombus. If AB = 17 and AE = 8, what is the measure of AC?

a. 8
b. 12
c. 16
d. 24

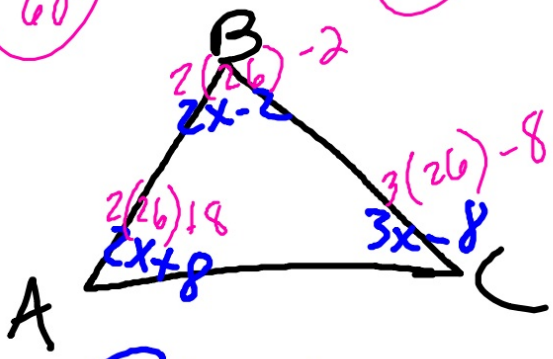


no sides =

8. ΔABC is a scalene triangle. m∠A = (2x + 8)°, m∠B = (2x - 2)°, and m∠C = (3x - 8)°. Find the measure of the largest angle.

A) 26°
B) 50°
C) ~~60°~~
D) 70°

60° 50° 70°



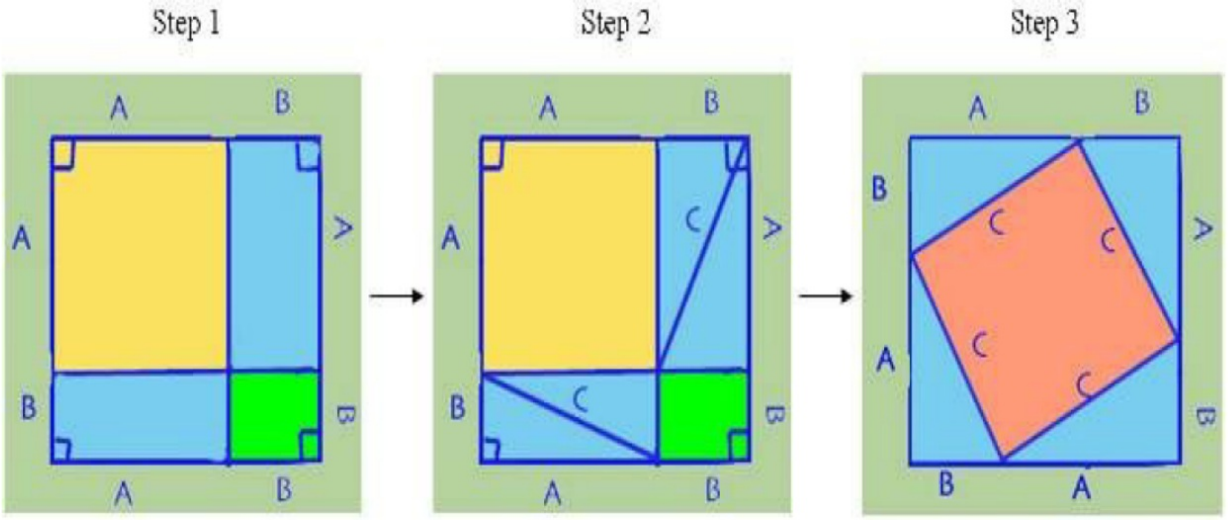
$2x-2+2x+8+3x-8=180$

$7x-2=180$
$+2 \quad +2$
$7x=182$

$\frac{7x}{7}=\frac{182}{7}$

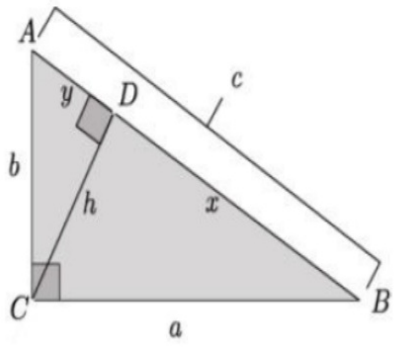
$x=26$

9. Shown here are the three essential steps in a proof of the Pythagorean Theorem. Why is the color blue kept the same in all threesteps?



a. because the blue areas remain constant in size
b. because the blue areas are converted to squares
c. because blue is used on the edges of the squares
d. because the blue regions never equal the other regions in size

10. Given that △ACB ~ △ADC ~ △CDB, which statements can be used to prove the Pythagorean theorem using what is known aboutsimilar triangles?



A) $\frac{a}{c} = \frac{x}{a}$

B) $a^2 = yc$

C) $\frac{b}{c} = \frac{x}{b}$

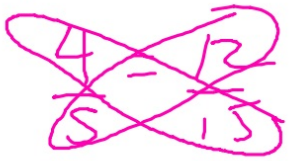
D) $b^2 = yc$

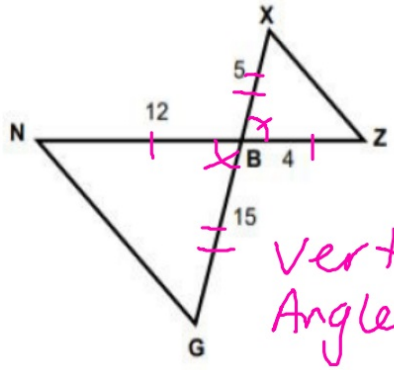
E) $a^2 + b^2 = xc + yc$

11. Determine if the triangles, ΔZBX and ΔNBG, are similar. If so, identify the similarity criterion.

a. AA similarity
b. SAS similarity
c. SSS similarity
d. not similar

60 = 60



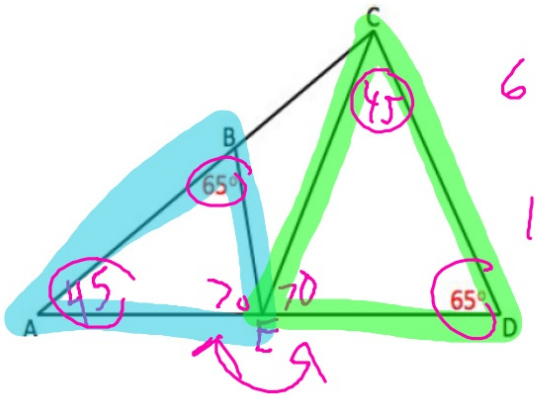


Vertical Angles =

12. If ∠BAE = 45° and ∠CED = 70° is ΔABE ~ ΔCDE? If so, by what criterion?

a. yes, by AA criterion
b. yes, by SAS criterion
c. yes, by SSA criterion
d. no, not possible to tell.

45+65
110
180-110
70



65+
13
180-