NAME: Key

GEOMETRY

SEMESTER 2 FINAL EXAM REVIEW PART 1

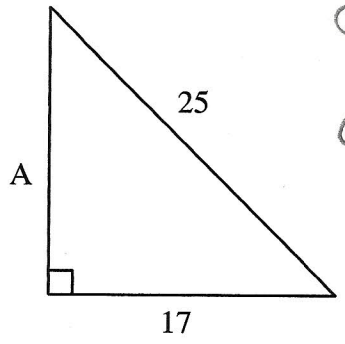
1. Find the geometric mean of 4 and 14.

$= 2\sqrt{14}$

$= \sqrt{4 \cdot 14}$

$= \sqrt{56} \approx 7.5$

2. Find the length of the leg of this right triangle. Give an approximation to 3 decimal places.



$a^2 + 17^2 = 25^2$

$a^2 + 289 = 625$

$a^2 = 336$

$a = 18.33$

$\sqrt{336}$

$= \sqrt{16 \cdot 21}$

$a = 4\sqrt{21}$

3. A triangle has side lengths of 51, 45, and 24. Decide whether it is a right triangle. Explain.

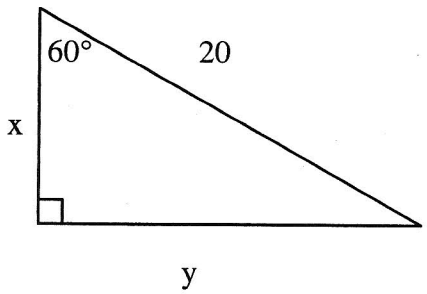
$24^2 + 45^2 \stackrel{?}{=} 51^2$

$576 + 2025 \stackrel{?}{=} 2601$

$2601 = 2601$

RIGHT $\triangle$

4. Find the values of x and y.

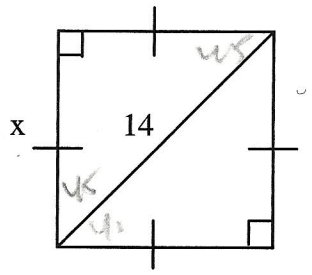


30-60-90 Special Right Triangles

$x = \frac{20}{2} = 10$

$y = 10\sqrt{3}$

5. Find the value of x.



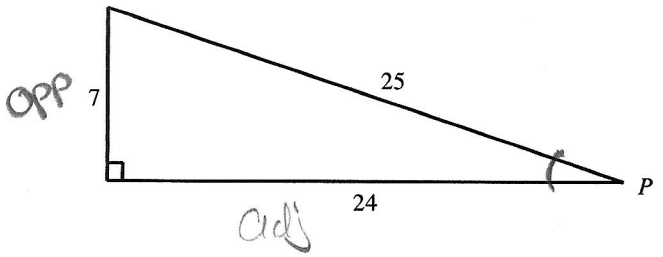
Special Right Triangle
45-45-90

$14 = x\sqrt{2}$

$x = \frac{14}{\sqrt{2}} = 9.9$

$\frac{14\sqrt{2}}{2} = 7\sqrt{2}$

6. Find sin P, cos P, tan P.(1 point per blank)

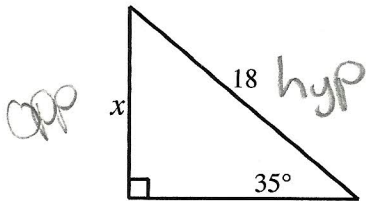


SOHCAHTOA

$\sin P = \frac{7}{25}$ $\tan P = \frac{7}{24}$

$\cos P = \frac{24}{25}$

7. What is x to the nearest hundredth? (not drawn to scale)

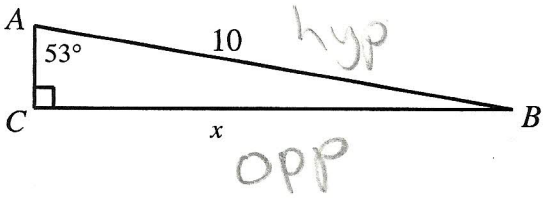


$\sin 35° = \frac{x}{18}$

$x = 18 \sin 35°$

$x = 10.32$

8. Find the value of x, to the nearest whole number. (not drawn to scale)

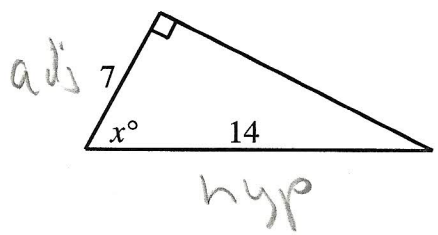


$\sin 53° = \frac{x}{10}$

$10 \sin 53° = x$

$x = 7.99 \approx 8$

9. Solve for x to the nearest degree.

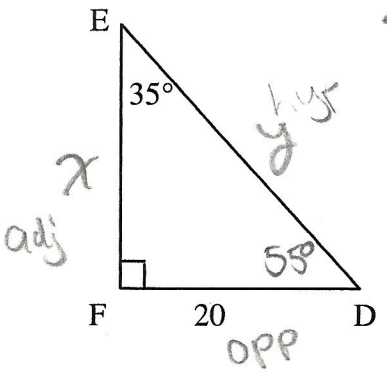


$\cos x° = \frac{7}{14}$

$\cos^{-1} x = .5$

$x = 60°$

10. In the diagram below, what are the measures of DE and EF, rounded to the nearest tenth?



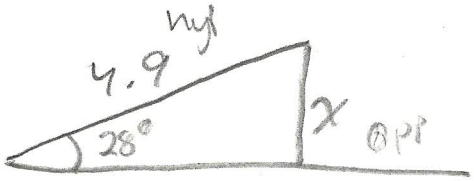
$\tan 35° = \frac{20}{x}$ $\sin 35° = \frac{20}{y}$

$x \tan 35° = 20$ $y \sin 35° = 20$

$x = \frac{20}{\tan 35°}$ $y = \frac{20}{\sin 35°}$

$x = 28.6$ $y = 34.9$

11. A slide 4.9M long makes an angle of 28° with the ground. How high is the top of the slide above the ground?

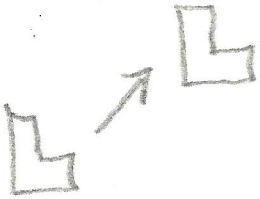
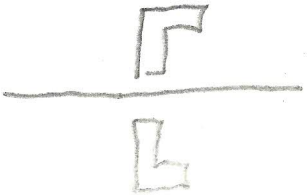


$\sin 28° = \frac{x}{4.9}$

$x = 4.9(\sin 28°)$

$x = 2.3m$

12. Identify the 3 types of congruence transformations and draw and example of each.

Rotation	translation	Reflection
		

13. Find the radius of a circle with circumference of 30 m. Round to the nearest hundredth.

$C = 2\pi r$ $30 = 2\pi r$ $r = \frac{30}{2\pi}$ $r = 4.77$

14. Define the following terms:

Diameter:

Secant:

Chord:

Tangent:
(Common Tangent)