Math 2   Name_____
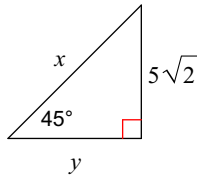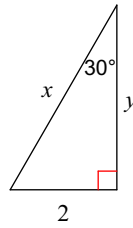
TEST 7 Triangles and Polygons   (#1-2 2 pts, 3-26 1 point each, 28 pts total)

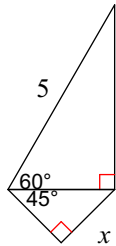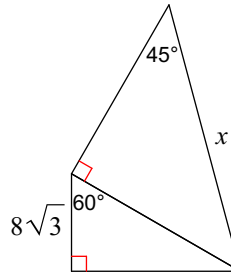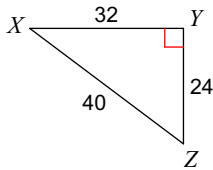**Find the missing side lengths. Leave your answers as radicals in simplest form.**
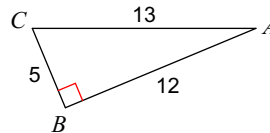
1)

2)

3)
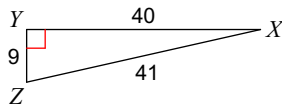

4)

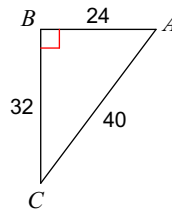**Find the value of each trigonometric ratio.**
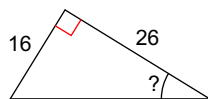
5) $\sin Z$

6) $\cos C$
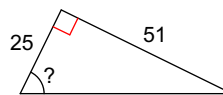

7) $\tan Z$

8) $\tan A$

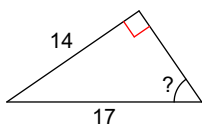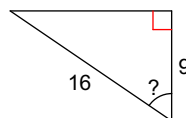**Find the measure of the indicated angle to the nearest degree.**
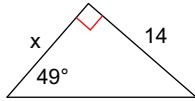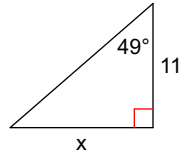
9)

10)

11)

12)

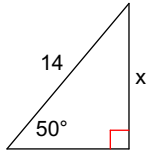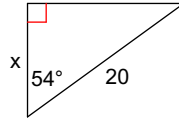**Find the missing side. Round to the nearest tenth.**

13)

14)

15)

16)

Find the measure of one interior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

17) regular 19-gon

18) regular 21-gon

Find the interior angle sum for each polygon. Round your answer to the nearest tenth if necessary.
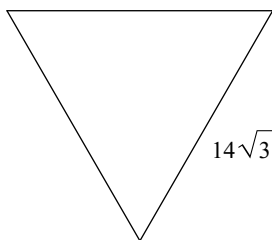
19) regular 23-gon

20) regular 19-gon

Find the measure of one exterior angle in each regular polygon. Round your answer to the nearest tenth if necessary.
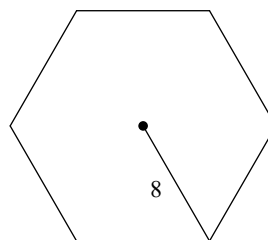
21) regular 20-gon

22) regular nonagon

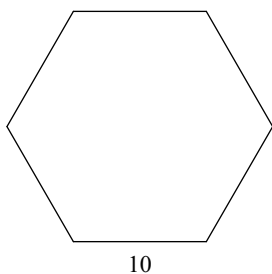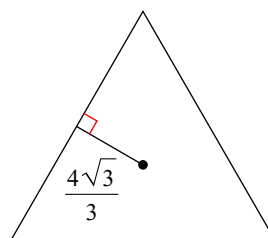**Find the area of each regular polygon. Leave your answer in simplest form.**
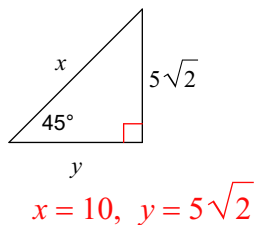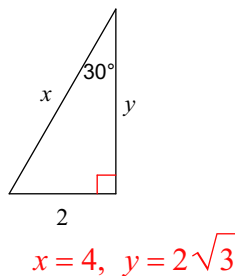
23)

24)

25)

26)

Name_____

TEST 7 Triangles and Polygons (#1-2 2 pts, 3-26 1 point each, 28 pts total)

Find the missing side lengths. Leave your answers as radicals in simplest form.
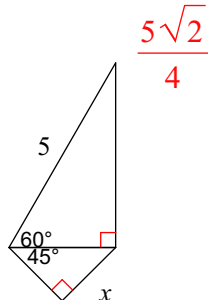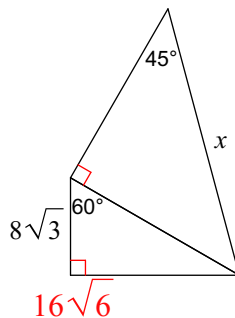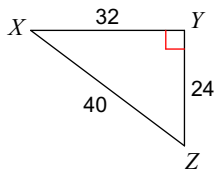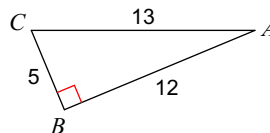
1)

$x = 10, \quad y = 5\sqrt{2}$

2)

$x = 4, \quad y = 2\sqrt{3}$

3)

$$\frac{5\sqrt{2}}{4}$$

4)

$16\sqrt{6}$

Find the value of each trigonometric ratio.

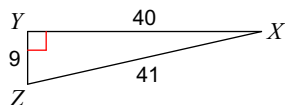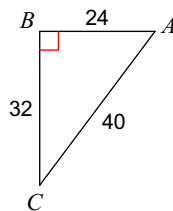5) sin Z $$\frac{4}{5}$$

6) cos C $$\frac{5}{13}$$

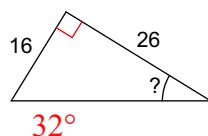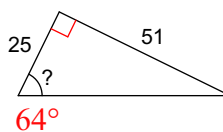7) tan Z $$\frac{40}{9}$$

8) tan A $$\frac{4}{3}$$

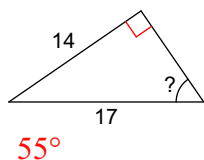**Find the measure of the indicated angle to the nearest degree.**

9)

$32°$

10)

$64°$

11)
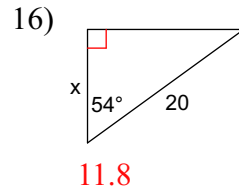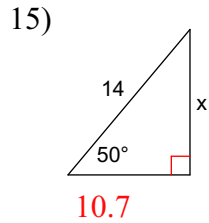

$55°$

12)

$56°$

Find the missing side. Round to the nearest tenth.

13)

x, 14, 49°

12.2

14)

49°, 11, x

12.7

15)

14, x, 50°

10.7

16)

x, 54°, 20

11.8

Find the measure of one interior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

17) regular 19-gon

161.1°

18) regular 21-gon

162.9°

Find the interior angle sum for each polygon. Round your answer to the nearest tenth if necessary.
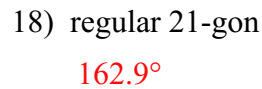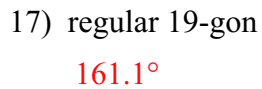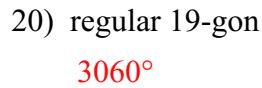
19) regular 23-gon

3780°

20) regular 19-gon
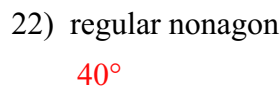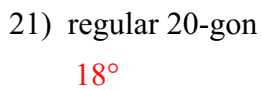
3060°

Find the measure of one exterior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

21) regular 20-gon

18°

22) regular nonagon

40°

Find the area of each regular polygon. Leave your answer in simplest form.

23)

$14\sqrt{3}$

$147\sqrt{3}$

24)

8

$96\sqrt{3}$

25)

10

$150\sqrt{3}$

26)

$\dfrac{4\sqrt{3}}{3}$

$16\sqrt{3}$