Name:_____**Date:**_____**Period:**_____

10-2 Pythagorean Theorem

Standard

- B.G.SRT.B.3 Apply properties of 30° 60° 90°, 45° 45° 90°, similar, and congruent triangles.
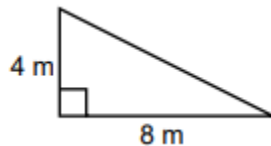
Objective

SWBAT use the Pythagorean Theorem IOT solve problems involving right triangles.

Examples
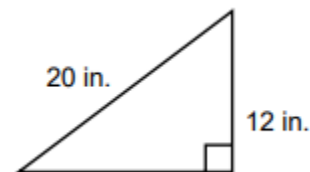
1. (I do) Use the Pythagorean Theorem to find the unknown length. Round your answers to the nearest tenth.

    a.   b.

2. (We do) An architect draws right triangle DEF. In the blueprint, ∠E is the right angle, DE = 3 cm, EF = 5 cm. Find DF to the nearest tenth.

3. (We do) Are triangles with the following lengths right triangles?
   a. 2 cm, $4\sqrt{2}$ cm, 6 cm   b. 9 m, 40 m, 41

4. (They do) A triangular brace has sides 6 cm, 8 cm and 10 cm. Does the brace have a 90 degree angle?

5. (They do) Jose is cleaning out the rain gutters on his home. He has an 18-ft ladder. If the base of the ladder is placed 5 ft from the base of the building, how far up the wall will the ladder reach?
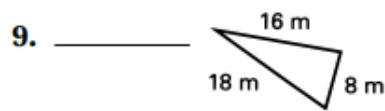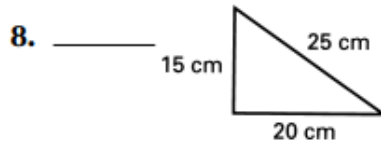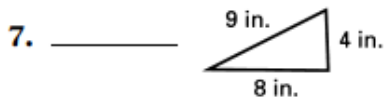
---------------------------Lesson 10-2 Independent Practice/Lesson Check--------------------------

☑ EXERCISES

Find the unknown length. Round your answer to the nearest tenth.

1. _____

4 cm

3 cm

2. _____

10 mm

24 mm

3. _____

6 cm   8 cm

4. _____

12 yd

6 yd

5. _____

7 in.

9 in.

6. _____
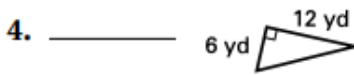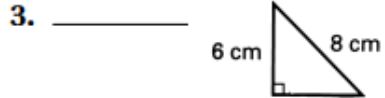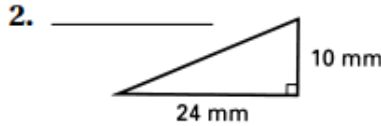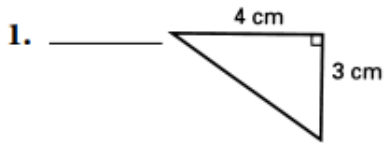
13 ft

12 ft

Determine if each triangle is a right triangle. Write *yes* or *no*.

7. _____

9 in.

4 in.

8 in.

8. _____

15 cm   25 cm

20 cm

9. _____

16 m

18 m   8 m

10. △GHI with 12-ft, 16-ft, 20-ft sides _____   11. △HIJ with 5-ft, 12-ft, 13-ft sides _____

Name:_____**Date:**_____**Period:**_____

10-3 Special Right Triangles

Standard

- B.G.SRT.B.3 Apply properties of 30° 60° 90°, 45° 45° 90°, similar, and congruent triangles.
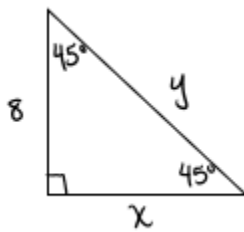
Objective

SWBAT use properties of special right triangles IOT solve problems involving right triangles.
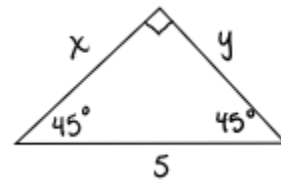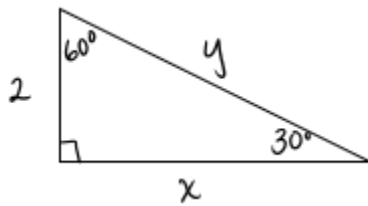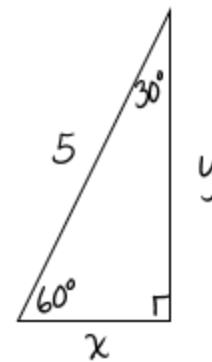
Examples

1. (I do) Find the unknown measures.
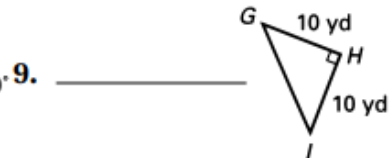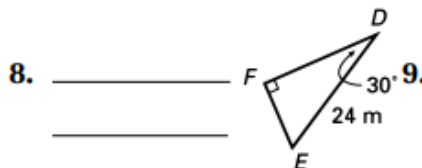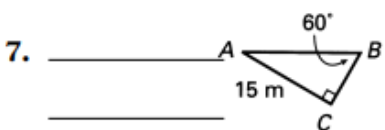
a.

b.

2. (I do) Find the unknown measures.

a.

b.

c.
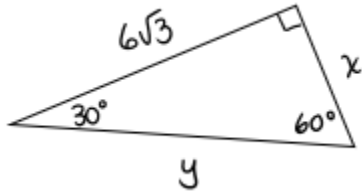
3. (We do) The diagonal of a square measures 15 cm. Find the length of a side of the square.

4. (They do) Find the measure of the altitude of an equilateral triangle that measures 8 in.

---------------------------Lesson 10-3 Independent Practice/Lesson Check--------------------------

☑ EXERCISES

Find the missing measures. Simplify your answer.

1. _____ _____

2. _____ _____

3. _____ _____

4. _____ _____

5. _____

6. _____ _____

7. _____ _____

8. _____ _____

9. _____
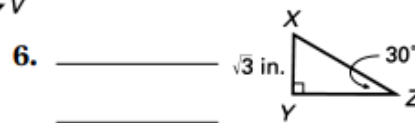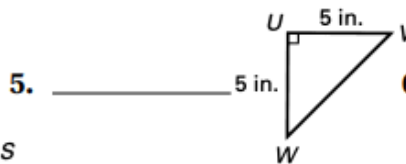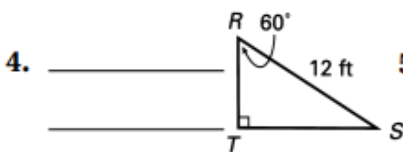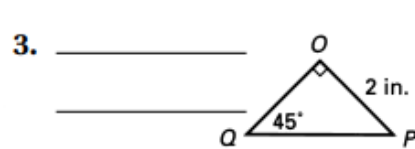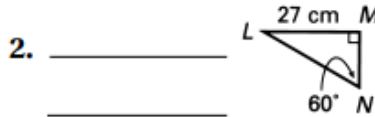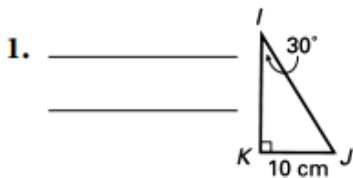
Name:_____**Date:**_____**Period:**_____

14-1 Right Triangle Trigonometry

Standard

- B.G.SRT.B.3 Apply properties of 30° 60° 90°, 45° 45° 90°, similar, and congruent triangles.

Objective

- SWBAT will use trigonometric ratios IOT solve problems involving right triangles.

Examples

1. (I do) Calculate the following trigonometric ratios.
    a. sin R

    b. cos R

    c. tan S

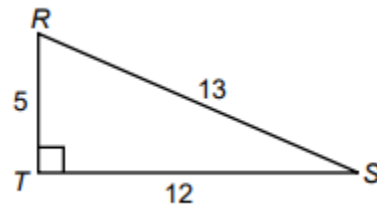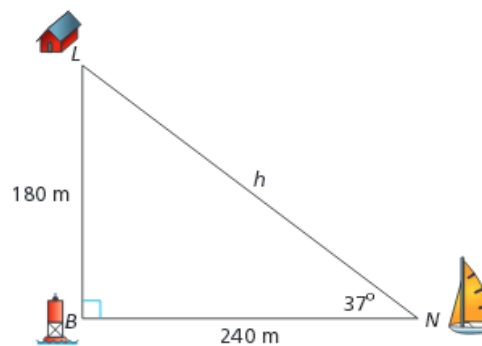2. (We do) A navigator at N sights a 37° angle between a buoy at B and a landmark at L. Find sin 37°.

3. (We do) An angle has a cosine of 0.55. Find the measure of the angle to the nearest degree.

4. (We do) Use the calculator to find the ratios.
   a. sin 22   b. cos 40

----------------------------Lesson 14-1 Independent Practice/Lesson Check--------------------------

☑ EXERCISES

Use the figures to find each ratio. Express answers in simplest terms.

1. tan D _____

sin E _____

cos E _____

cos D _____

2. tan G _____

sin I _____

sin G _____

cos I _____

3. cos L _____

sin J _____

sin L _____

tan J _____

4. tan O _____

sin O _____

tan N _____

cos N _____

Name:_____**Date:**_____**Period:**_____

14-2 Solve Right Triangles

Standard

- B.G.SRT.B.3 Apply properties of 30° 60° 90°, 45° 45° 90°, similar, and congruent triangles.
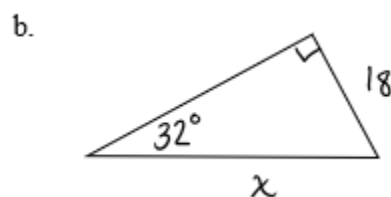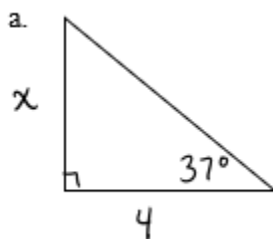
Objective

- SWBAT will use trigonometric ratios IOT solve problems involving right triangles.

Examples

1. (I do) For each triangle, find the measures of line segments to the nearest tenth and angles to the nearest degree.

2. (We do) Solve for x.

a.

b.
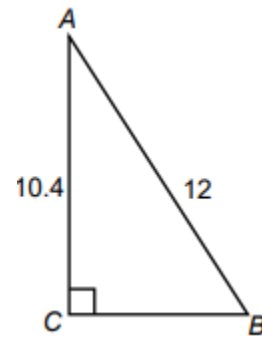
3. (We do) In triangle XYZ, ∠Y is the right angle, XY is 15.2 and XZ is 18.6. Solve triangle XYZ.

4. (They do) A surveyor is standing 550 ft from the base of a redwood tree in Humboldt, TN. The tree is 362 ft tall. Find the angle of elevation of the top of the tree from the spot where the surveyor is standing.
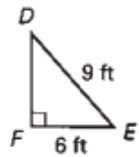
5. (They do) The width of a right-triangular sail of a boat is 64 in long. The angle at the top of the sail measures 23°. Find the length of the sail.

------------------------------Lesson 14-2 Independent Practice/Lesson Check---------------------------

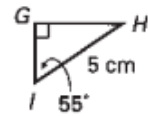◪ **EXERCISES**

For each triangle, find the measures of line segments to the nearest tenth and angles to the nearest degree.

1. DF _____

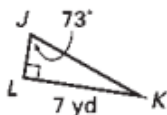   m∠D _____

   m∠E _____

2. m∠H _____

   GI _____

   GH _____

3. JK _____

   JL _____

   m∠K _____

4. m∠O _____

   m∠N _____

   ON _____