Name: _____   Date _____

Topic: <u>Working with Right Triangles- Worksheet 1</u>

Do the following:

1. A rectangular wall section at a housing construction site requires diagonal bracing. If the wall is 6.5 meters, how long must the brace be?

2. A tree in a back yard is to be cut down. The base of the tree from the house is 25 meters away, and the angle of elevation from the house to the top of the tree is 35.5 degrees. Could the tree hit the house when it is cut down?

3. In a right triangle normal is 40 cm, hypotenuse is 44. Find the value of base?

4. In a right triangle normal is 15 cm, hypotenuse is 20. Find the value of base?

5. The Tower is 32 m tall casts a shadow of 43 m along the level ground. At what angle do the rays of the sun hit the ground?

6. An aerial 20 meter tail is to be supported by 2 guy wires each 70 meter from its base. How long will each guy wire be?

7. A bird is 54 m above the ground. The bird string makes an angle of 40° with the ground. Assuming that the string is taut, how much string is out?

8. In a right triangle normal is 35 cm, hypotenuse is 40. Find the value of base?

9. A 40 meter ladder makes an angle of 32° with the playground. How far is the bottom of the ladder from the base of the playground?

10. A wheelchair access ramp is to be erected for entry into a building. If the entrance is 5.9 meters above the footpath, and the ramp cannot exceed an angle of 4.3degrees, what will be the minimum length of the ramp to allow access to the building?

Name: _____   Date _____

Topic: <u>Working with Right Triangles- Worksheet 2</u>

Do the following:

1. A rectangular wall section at a housing construction site requires diagonal bracing. If the wall is 5.5 meters, how long must the brace be?

2. A tree in a back yard is to be cut down. The base of the tree from the house is 35 meters away, and the angle of elevation from the house to the top of the tree is 55.5 degrees. Could the tree hit the house when it is cut down?

3. In a right triangle normal is 30 cm, hypotenuse is 55. Find the value of base?

4. In a right triangle normal is 18 cm, hypotenuse is 40. Find the value of base?

5. The Tower is 42 m tall casts a shadow of 53 m along the level ground. At what angle do the rays of the sun hit the ground?

6. An aerial 30 meter tail is to be supported by 2 guy wires each 80 meter from its base. How long will each guy wire be?

7. A bird is 64 m above the ground. The bird string makes an angle of 50° with the ground. Assuming that the string is taut, how much string is out?

8. In a right triangle normal is 45 cm, hypotenuse is 50. Find the value of base?

9. An 50 meter ladder makes an angle of 22° with the playground . How far is the bottom of the ladder from the base of the playground?

10. A wheelchair access ramp is to be erected for entry into a building. If the entrance is 3.2 meters above the footpath, and the ramp cannot exceed an angle of 5.5degrees, what will be the minimum length of the ramp to allow access to the building?

Name: _____   Date _____

Topic: <u>Working with Right Triangles- Worksheet 3</u>

Do the following:

1. A rectangular wall section at a housing construction site requires diagonal bracing. If the wall is 2.5 meters, how long must the brace be?

2. A Poll in a back yard is to be cut down. The base of the Poll from the house is 25 meters away, and the angle of elevation from the house to the top of the poll is 65.5 degrees. Could the poll hit the house when it is cut down?

3. In a right triangle normal is 60 cm, hypotenuse is 77. Find the value of base?

4. In a right triangle normal is 21 cm, hypotenuse is 60. Find the value of base?

5. The Tower is 52 m tall casts a shadow of 63 m along the level ground. At what angle do the rays of the sun hit the ground?

6. An aerial 20 meter tail is to be supported by 2 guy wires each 90 meter from its base. How long will each guy wire be?

7. A bird is 74 m above the ground. The bird string makes an angle of 60° with the ground. Assuming that the string is taut, how much string is out?

8. In a right triangle normal is 55 cm, hypotenuse is 60. Find the value of base?

9. A 70 meter ladder makes an angle of 42° with the playground. How far is the bottom of the ladder from the base of the playground?

10. A wheelchair access ramp is to be erected for entry into a building. If the entrance is 7.2 meters above the footpath, and the ramp cannot exceed an angle of 3.3 degrees, what will be the minimum length of the ramp to allow access to the building?

Name: _____   Date _____

Topic: <u>Working with Right Triangles- Worksheet 4</u>

Do the following:

1. A rectangular wall section at a housing construction site requires diagonal bracing. If the wall is 8.5 meters, how long must the brace be?

2. A tree in a back yard is to be cut down. The base of the tree from the house is 35 meters away, and the angle of elevation from the house to the top of the tree is 25.5 degrees. Could the tree hit the house when it is cut down?

3. In a right triangle normal is 10 cm, hypotenuse is 66. Find the value of base?

4. In a right triangle normal is 25 cm, hypotenuse is 40. Find the value of base?

5. The Tower is 72 m tall casts a shadow of 53 m along the level ground. At what angle do the rays of the sun hit the ground?

6. An aerial 30 meter tail is to be supported by 2 guy wires each 80 meter from its base. How long will each guy wire be?

7. A bird is 84 m above the ground. The bird string makes an angle of 30° with the ground. Assuming that the string is taut, how much string is out?

8. In a right triangle normal is 75 cm, hypotenuse is 80. Find the value of base?

9. An 40 meter ladder makes an angle of 65° with the playground. How far is the bottom of the ladder from the base of the playground?

10. A wheelchair access ramp is to be erected for entry into a building. If the entrance is 8.2 meters above the footpath, and the ramp cannot exceed an angle of 6.2 degrees, what will be the minimum length of the ramp to allow access to the building?

Name: _____   Date _____

Topic: _Working with Right Triangles- Worksheet 5_

Do the following:

1. A rectangular wall section at a housing construction site requires diagonal bracing. If the wall is 6·6 meters, how long must the brace be?

2. A tree in a back yard is to be cut down. The base of the tree from the house is 45 meters away, and the angle of elevation from the house to the top of the tree is 45·5 degrees. Could the tree hit the house when it is cut down?

3. In a right triangle normal is 20 cm, hypotenuse is 88. Find the value of base?

4. In a right triangle normal is 15 cm, hypotenuse is 50. Find the value of base?

5. The Tower is 65 m tall casts a shadow of 43 m along the level ground. At what angle do the rays of the sun hit the ground?

6. An aerial 40 meter tail is to be supported by 2 guy wires each 90 meter from its base. How long will each guy wire be?

7. A bird is 70 m above the ground. The bird string makes an angle of 70° with the ground. Assuming that the string is taut, how much string is out?

8. In a right triangle normal is 70 cm, hypotenuse is 85. Find the value of base?

9. An 30 meter ladder makes an angle of 55° with the playground . How far is the bottom of the ladder from the base of the playground?

10. A wheelchair access ramp is to be erected for entry into a building. If the entrance is 2·2 meters above the footpath, and the ramp cannot exceed an angle of 4·6 degrees, what will be the minimum length of the ramp to allow access to the building?