Concept 15: Pythagorean Theorem

DUE DATE: February 21st
(initial score in the gradebook)
DEADLINE: February 28th
(on THE LIST if note completed)

Pre-Quiz Score = _____/5
Score 4,5 = Level 4
Score 2,3 = Level 3
Score 0,1 = Level 2

(C) Level 2

1. **Watch the video (Level 2: Pythagorean Theorem)**
   Complete the Notes & Basic Practice
   Check the Key and Correct Mistakes

2. **Complete 2 of the following tasks**

IXL Practice	Worksheets	Creating
O.1, O.2, (8th) At Least to 80 Score = _____	Level 2: Pythagorean Theorem	Showing 2 Examples of using Pythagorean Theorem (1 finding hyp./1 finding leg)

3. **Take the Schoology Quiz (Level 2: Pythagorean Theorem)**
   Score of 4 or higher move to level 3
   Score of 3 or less, complete 1 of the following tasks

Level 2
Quiz Score:

BuzzMath	Fix Mistakes	Alternate Option
Complete the following task in BuzzMath	Write up the questions you got wrong and hand it in. All work and steps must be shown.	Choose the option for Step 2 that you haven't completed yet

Mr. Sieling's Signature _____

(B) Level 3

1. **Watch the video (Level 3: Pythagorean Theorem)**
   Complete the Notes & Basic Practice, Check the Key and Correct Mistakes
2. **Complete 2 of the following tasks**

IXL Practice	Worksheets	Creating
B8 (Geo) At least to 85 Score = _____	Level 3: Pythagorean Theorem	Showing 2 Examples of the Distance Formula

3. **Take the Schoology Quiz (Level 3: Pythagorean Theorem)**
   Score of 4 or higher move to level 4
   Score of 3 or less, complete 1 of the following tasks

Level 3
Quiz Score:

BuzzMath	Fix Mistakes	Alternate Option
Complete the following task in BuzzMath	Write up the questions you got wrong and hand it in. All work and steps must be shown.	Choose the option for Step 2 that you haven't completed yet

Mr. Sieling's Signature:_____

(A) Level 4

1. **Watch the video (Level 4: Pythagorean Theorem)**
   Complete the Notes & Basic Practice, Check the Key and Correct Mistakes
2. **Complete 2 of the following tasks**

IXL Practice	Worksheets	Creating
F16 (Alg1) At least to 70 Score = _____	Level 4: Pythagorean Theorem	Showing 30-60-90 Relationships

3. **Take the Schoology Quiz (Level 4: Pythagorean Theorem)**
   Score of 4 or higher, Congratulations Math Master!
   Score of 3 or less, complete 1 of the following tasks

Level 4
Quiz Score:

Brain Genie	Fix Mistakes	Alternate Option
Ask Mr. Sieling for login info	Write up the questions you got wrong and hand it in. All work and steps must be shown.	Choose the option for Step 2 that you haven't completed yet

Mr. Sieling's Signature:_____

Notes Level 2:

Concept # _____

Goals:

Use Pythagorean Theorem to find missing hypotenuse on right triangle

Use Pythagorean Theorem to find missing leg on a right triangle

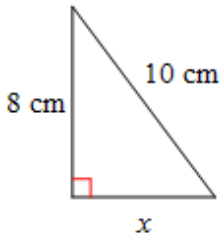
Notes:

Big Ideas	Examples/Details

Level 2 Practice:

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

1)



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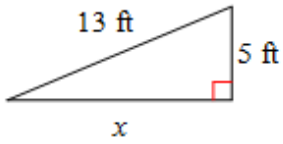

SMART Ink

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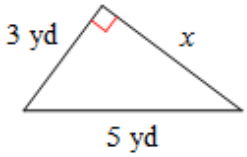

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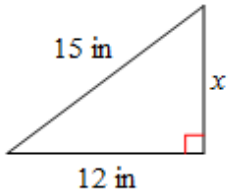

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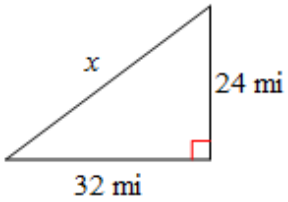

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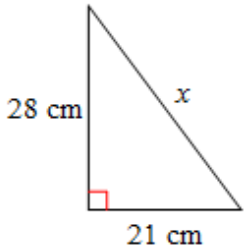

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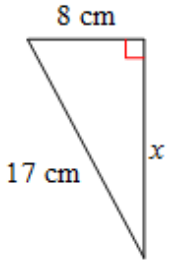

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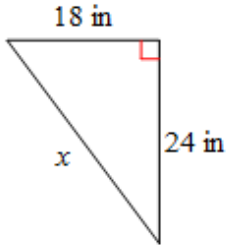

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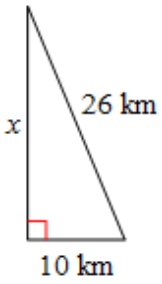

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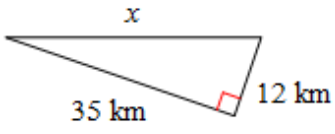


Worksheet Level 2:

Goals:

Use Pythagorean Theorem to find missing hypotenuse on right triangle

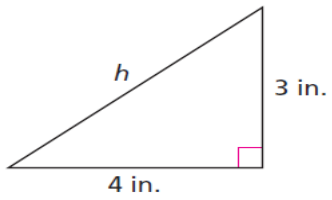
Use Pythagorean Theorem to find missing leg on a right triangle

Concept # _____

Practice #1

Find the missing length(s).

5.



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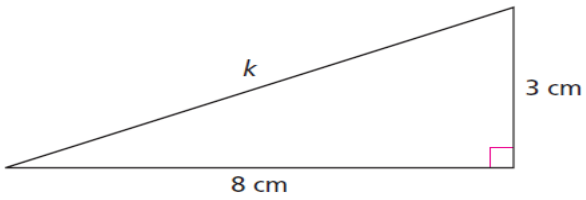

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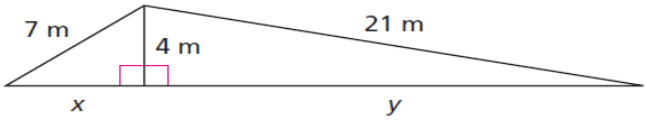
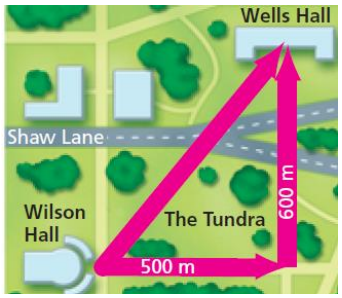


Practice #2

Moesha, a college student, needs to walk from her dorm room in Wilson Hall to her math class in Wells Hall. Normally, she walks 500 meters east and 600 meters north along the sidewalks, but today she is running late. She decides to take the shortcut through the Tundra.

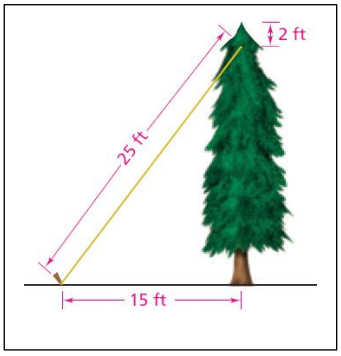
a. How many meters long is Moesha's shortcut?

b. How much shorter is the shortcut than Moesha's usual route?



Practice #3

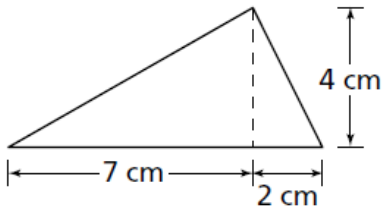
At Emmit's Evergreen Farm, the taller trees are braced by wires. A wire extends from 2 feet below the top of a tree to a stake in the ground. What is the tallest tree that can be braced with a 25-foot wire staked 15 feet from the base of the tree?



Practice #4

For Exercises 17–19, find the perimeter of the figure to the nearest tenth of a centimeter.

17.



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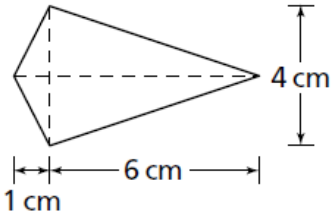

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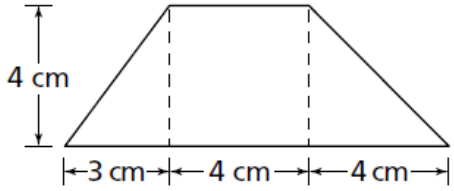
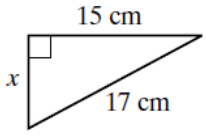
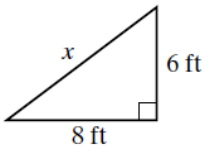
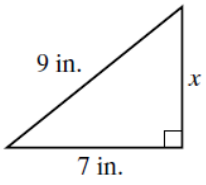


Practice #5

Find the length of the missing side.







Notes Level 3:

Goals:

Use the Pythagorean Theorem to find distances on a coordinate grid

Concept # _____

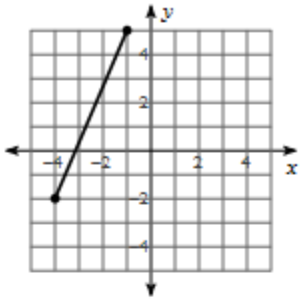
Notes:

Big Ideas	Examples/Details

Level 3 Practice:

Find the distance between each pair of points.

1)



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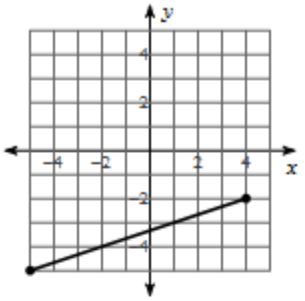

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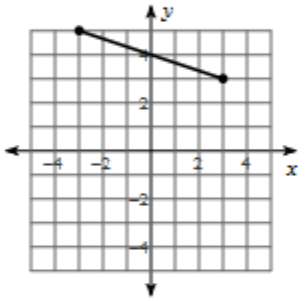

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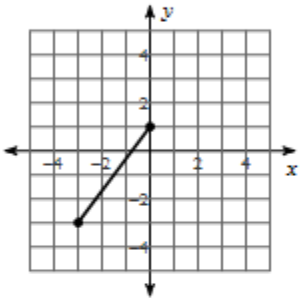

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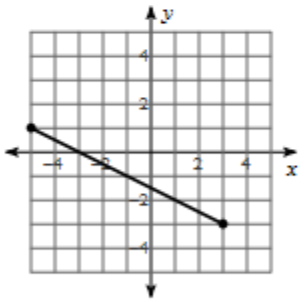

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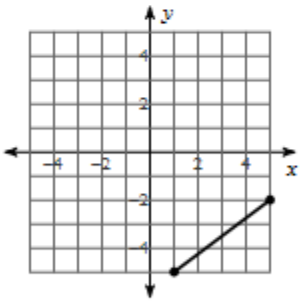

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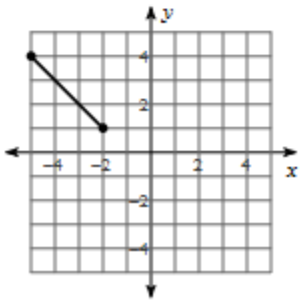

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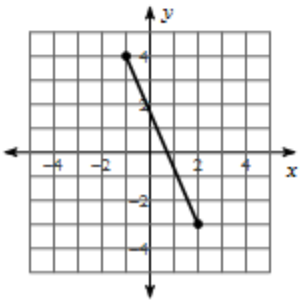


Worksheet Level 3:

Goals:

Use the Pythagorean Theorem to find distances on a coordinate grid

Concept # _____

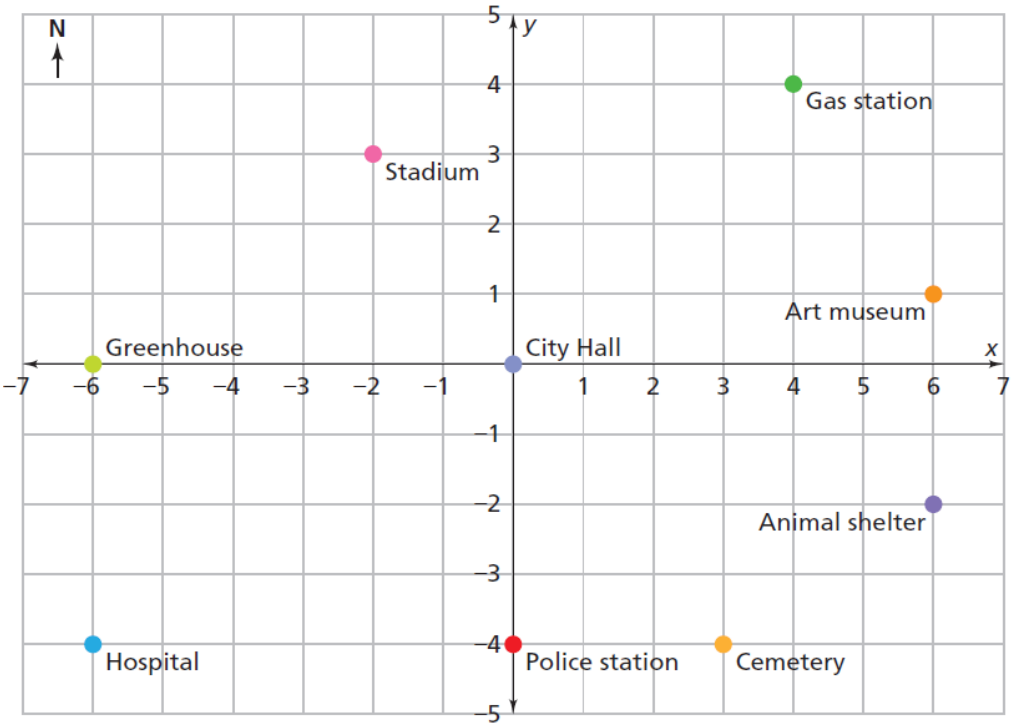
Practice #1

8. greenhouse and stadium

9. police station and art museum

10. greenhouse and hospital

11. City Hall and gas station

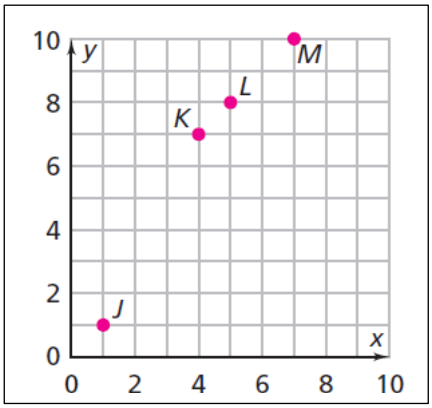


Practice #2

a. Find the coordinates of J and K.

b. Use the coordinates to find the distance from J to K. Explain your method.

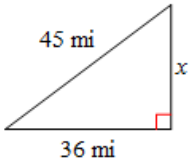
c. Use your method from part (b) to find the distance from L to M.



Practice #3

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

1)



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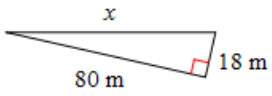

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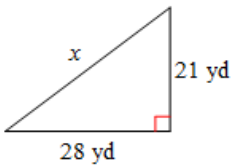

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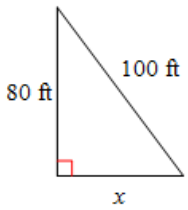
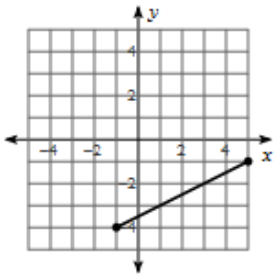


Practice #4

Find the distance between each pair of points.

1)



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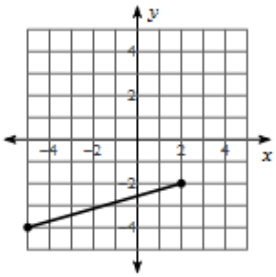


3) $(-2, 3), (4, -1)$

4) $(1, 7), (-8, 7)$

5) $(8, 7), (-6, 6)$

6) $(-5, -2), (-1, -1)$

7) $(5, 2), (6, 6)$

8) $(-8, 3), (1, 0)$

Notes Level 4:

Concept # _____

Goals:

Apply the 30-60-90 relationships to find missing measurements

Apply the 45-45-90 relationships to find missing measurements

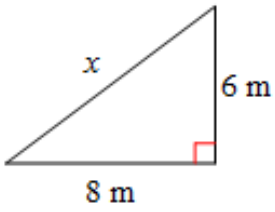
Notes:

Big Ideas	Examples/Details

Basic Practice:

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

1)



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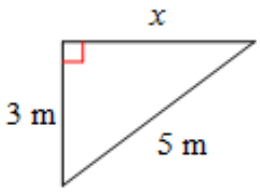

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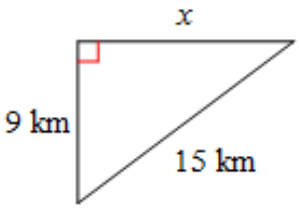

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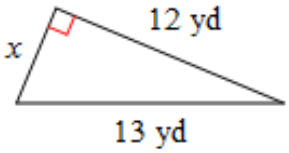
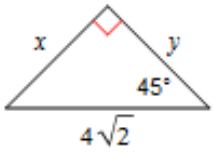


Find the missing side lengths. Leave your answers as radicals in simplest form.

5)



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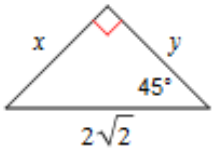

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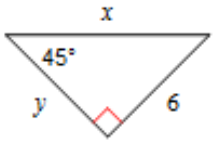

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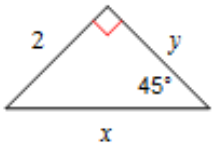

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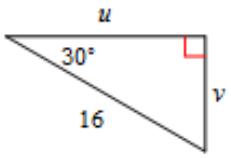

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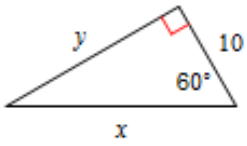

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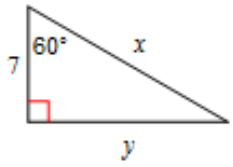

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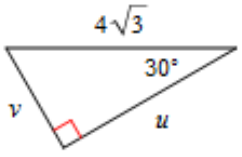


Worksheet Level 4:

Concept # _____

Goals:

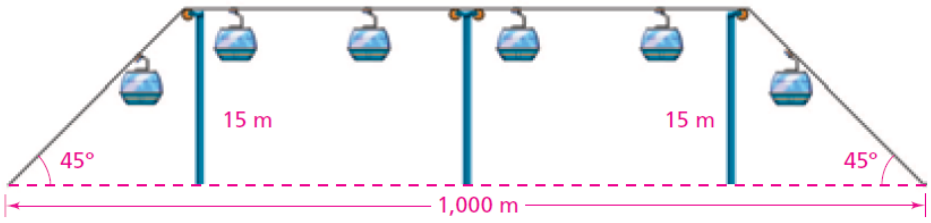
Apply the 30-60-90 relationships to find missing measurements

Apply the 45-45-90 relationships to find missing measurements

Practice #1

8. The diagram shows an amusement park ride in which tram cars glide along a cable. How long, to the nearest tenth of a meter, is the cable for the ride?

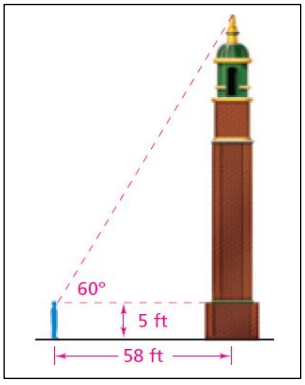
Not drawn to scale



Practice #2

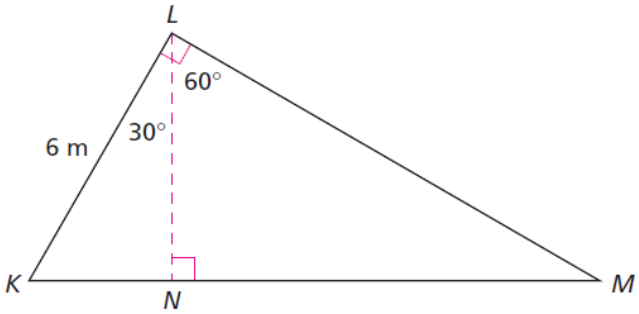
As part of his math assignment, Denzel has to estimate the height of a tower. He decides to use what he knows about 30-60-90 triangles.

Denzel makes the measurements shown below. About how tall is the tower? Explain.



Practice #3

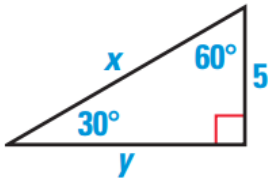
Find the perimeter of triangle KLM.



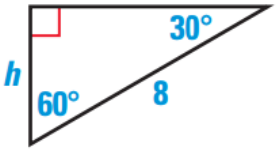
Practice #4

Find the value of each variable. Write your answers in radical form.

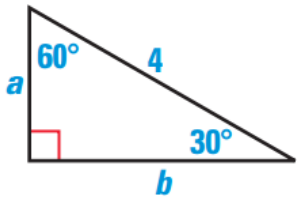
8.



9.



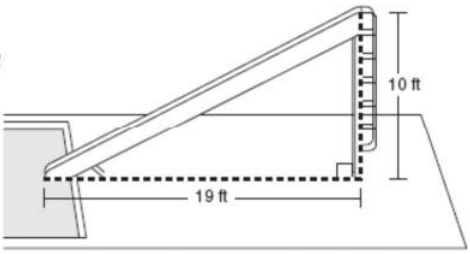
10.



Practice #5

10. An escalator lifts people to the second floor, 25 ft. above the first floor. The escalator rises at a 30° angle. How far does a person travel from the bottom to the top of the escalator?

11. A slide was installed at the local swimming pool, as shown here What is the length of the slide?



Practice #6

CONSTRUCTION A 20-foot ladder leaning against a wall is used to reach a window that is 17 feet above the ground. How far from the wall is the bottom of the ladder? Round to the nearest tenth of a foot.

TRAVEL Tina measures the distances between three cities on a map. The distances between the three cities are 45 miles, 56 miles, and 72 miles. Do the positions of the three cities form a right triangle?