V1 Warm Up Grade 8

Wednesday, Nov. __, 2019

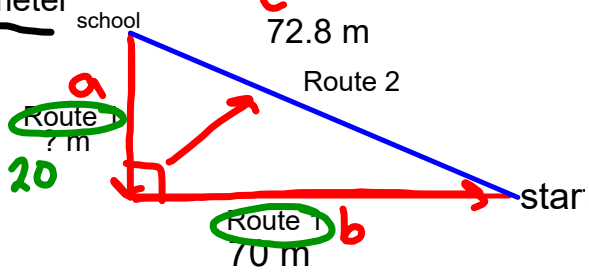
Applying Knowledge

Similar to test question

1) Jack and Ted have competing paving companies. The school wants to hire the one of the companies to pave a path to school. They have two choices;

Ted travels along route 1 but charges $20 per meter

Jack travels along route 2 but charges $24 per meter



a) How much does Ted charge?

$a^2 = c^2 - b^2$

$= (72.8m)^2 - (70m)^2$

$= 5299.84 - 4900$

$a^2 = 399.84$

$\sqrt{a^2} = \sqrt{399.84}$

$a \approx 20m$

Route 1 distance

$20m + 70m = 90m$

$\times \$20$

$\$1800$

Ted charges $1800

b) How much will Jack Charge? (Requires more work than part a)

$72.8m \times \$24 = \$1747.20$

Jack charges $1747.20

c) Who has the better deal for the school?

Jack is cheaper by

$\$1800 - 1747.20 = \$52.80$

Warm Up Grade 8

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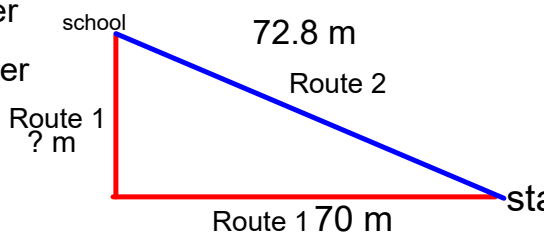


a) How much does Ted charge?

find missing route (leg)

$a^2 = c^2 - b^2$

$=(72.8\ m)^2 - (70\ m)^2$

$= 5\ 299.84 m^2 - 4900 m^2$

$a^2 = 399.84\ m^2$

$a = \sqrt{399.84\ m^2}$

$a \approx 20\ m$

20 m + 70 m = 90 m

x $20

$1800

Ted charges $1800

b) How much will Jack Charge?

78.2 m x $24 = $1876.80

Jack Charges
$1876.80

c) Who has the better deal for the school?

Ted has the better deal. He is $76.80 cheaper.

$1876.80 - $1800 = $76.80

Version 2

Warm Up Grade 8

Wednesday, Nov. __, 2019

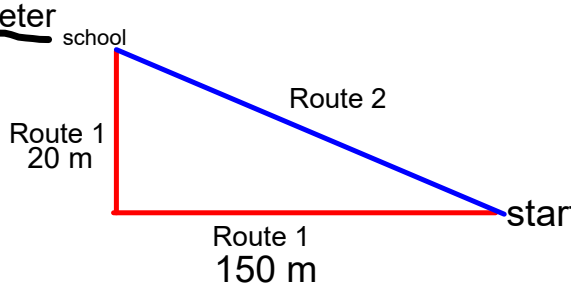
Applying Knowledge

Similar to test question

1) Jack and Ted have competing paving companies. The school wants to hire the one of the companies to pave a path to school. They have two choices;

Ted travels along route 1 but charges $20 per meter

Jack travels along route 2 but charges $22 per meter



a) How much does Ted charge?

b) How much will Jack Charge? (Requires more work than part a)

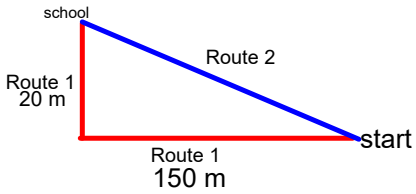
c) Who has the better deal for the school?

Warm Up Grade 8

1) Jack and Ted have competing paving companies. The school wants to hire the one of the companies to pave a path to school. They have two choices;

Ted travels along route 1 but charges $20 per meter

Jack travels along route 2 but charges $22 per meter



a) How much does Ted charge?

20 m + 150 m = 170 m

x $20

$3400

Ted charges $3400

b) How much will Jack Charge? (Requires more work than part a)

Need to find route 2 ...THE Hypotenuse

$c^2 = a^2 + b^2$

$c^2 = (150\ m)^2 + (20\ m)^2$

$c^2 = 22\ 500\ m^2 + 400\ m^2$

$c^2 = 22\ 900\ m^2$

$c = \sqrt{22\ 900\ m^2}$

$c = 151.3\ m$

151.3 x $22 = $3328.60

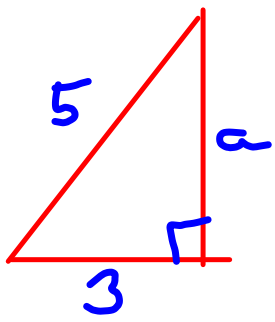
Jack Charges $3328.60

c) Who has the better deal for the school?

Jack is the better deal. He charges $71.40 cheaper.

$3400 - $3328.60 = $71.40

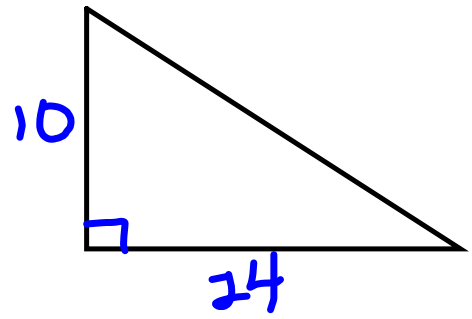
6.



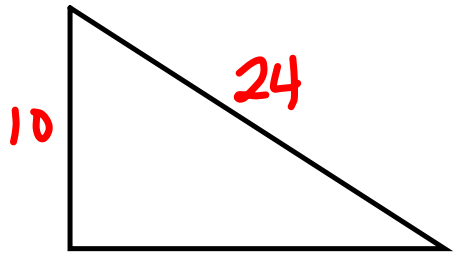
$c^2 = a^2 + b^2$
$5^2 = a^2 + 3^2$
$25 = a^2 + 9$
$25 - 9 = a^2 + 9 - 9$
$16 = a^2$
$\sqrt{16} = \sqrt{a^2}$
$4 = a$

The ladder reaches up 4 m.

7.



$c^2 = a^2 + b^2$
$c^2 = 10^2 + 24^2$
$c^2 = 100 + 576$
$c^2 = 676$
$\sqrt{c^2} = \sqrt{676}$
$c^2 = 26$

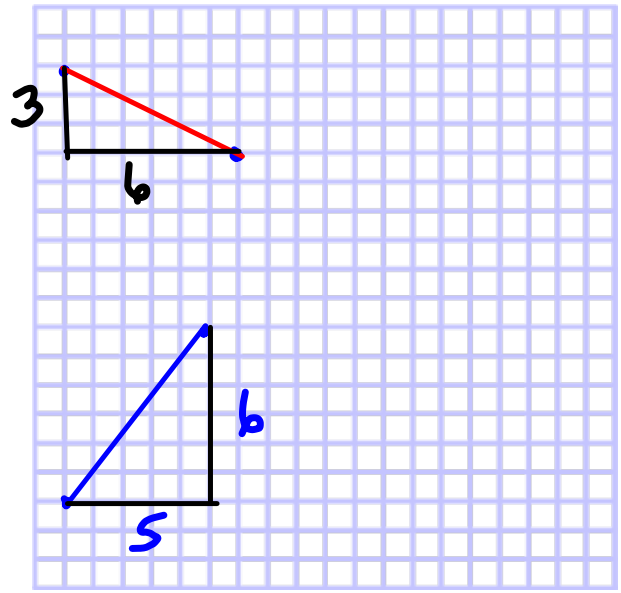


$c^2 = a^2 + b^2$
$24^2 = a^2 + 10^2$
$576 = a^2 + 100$
$576 - 100 = a^2 + 100 - 100$
$476 = a^2$
$\sqrt{476} = \sqrt{a^2}$
$21.8 = a$

b) 2 answers are possible because it doesn't say if 24 is one leg or the hypotenuse.

8

a)

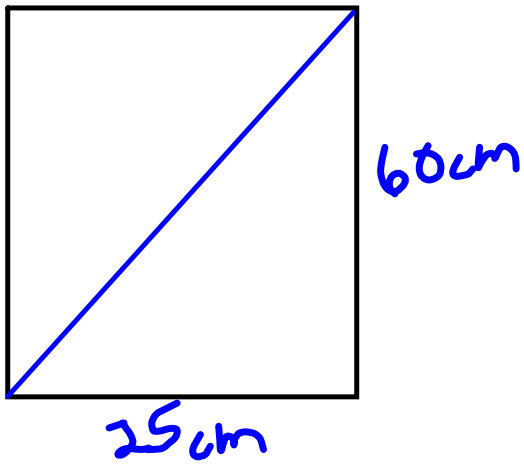


b)

a) $c^2 = a^2 + b^2$
$c^2 = 5^2 + 6^2$
$c^2 = 9 + 36$
$c^2 = 45$
$\sqrt{c^2} = \sqrt{45}$
$c = 6.7$

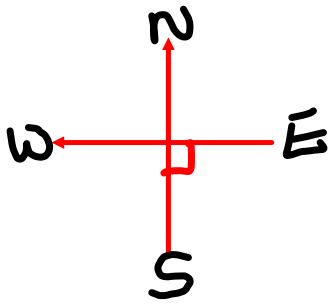
$c^2 = a^2 + b^2$
$c^2 = 5^2 + 6^2$
$c^2 = 25 + 36$
$c^2 = 61$
$\sqrt{c^2} = \sqrt{61}$
$c = 7.8$

9.



$c^2 = a^2 + b^2$
$c^2 = 25^2 + 60^2$
$c^2 = 625 + 3600$
$c^2 = 4225$
$\sqrt{c^2} = \sqrt{4225}$
$c = 65$

The diagonal should be 65 cm



10. Dock 84 m Boat B

35m

c

x

Boat A

$c^2 = a^2 + b^2$

$c^2 = 35^2 + 84^2$

$c^2 = 1225 + 7056$

$c^2 = 8281$

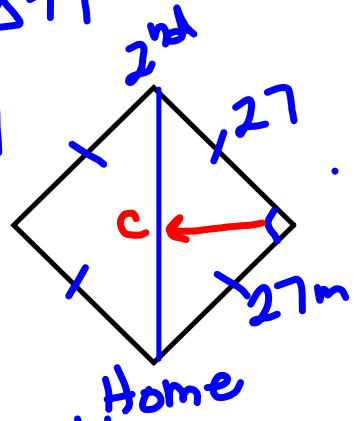
$\sqrt{c^2} = \sqrt{8281}$

$c = 91$ m

The boats are 91 m apart

Pg 49

11.



$c^2 = a^2 + b^2$

$c^2 = 27^2 + 27^2$

$c^2 = 729 + 729$

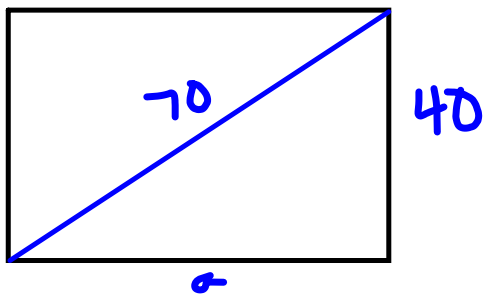
$c^2 = 1458$

$\sqrt{c^2} = \sqrt{1458}$

$c = 38.2\text{m}$

The throw must be 38.2 m

13.



$c^2 = a^2 + b^2$

$70^2 = a^2 + 40^2$

$4900 = a^2 + 1600$

$4900 - 1600 = a^2 + 1600 - 1600$

$3300 = a^2$

$\sqrt{3300} = \sqrt{a^2}$

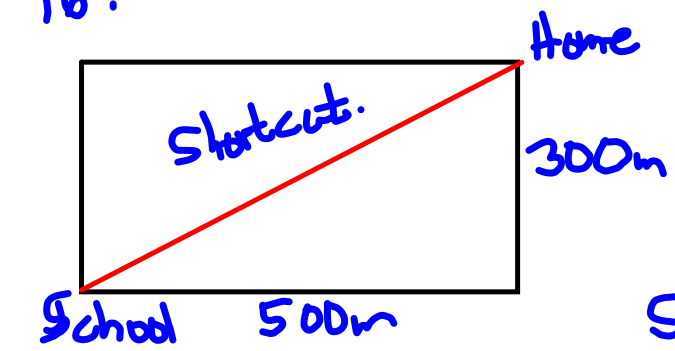
$57.4\text{ cm} = a$

The length is 57.4 cm

14. To get from A to B, you move right 4 and up 3.

To get from A to F, you move down 3 and left 4, so F is the same distance from A as B is.

16.



$c = 5.8$

Joanna normally walks 800m

Short cut

$c^2 = a^2 + b^2$

$c^2 = 300^2 + 500^2$

$c^2 = 9000 + 25000$

$c^2 = 34000$

$\sqrt{c^2} = \sqrt{34000}$

$c = 583$

$\begin{array}{r} 7\,9\,10 \\ \cancel{8}\cancel{0}0 \\ -\,5\,8\,3 \\ \hline 2\,1\,7 \end{array}$

The shortcut is 217m shorter

Class/Homework

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

Factors of 100
1 x 100
2 x 50
4 x 25
5 x 20
10 x 10

Worksheet: Unit 1 Test Review

Complete all questions on the worksheet

Unit 1 Test

Tues, Dec 3

STUDY

Must Study Perfect Square#
Not given on test

Test Outline
→ 5 MC
→ 9 Short Response
→ given # of factors determine if # is a perfect square
→ product of perfect squares
Ex $\sqrt{400} = \sqrt{4 \times 100}$
$\sqrt{4} \times \sqrt{100}$
$= 2 \times 10$
$= 20$
→ Find $\sqrt{}$ of # using product of primes (tree)
→ use $c^2 = a^2 + b^2$
or
$a^2 = c^2 - b^2$
to find lenght of missing side of right Δ
→ Diagonal length
→ Know difference of square and Square root ($\sqrt{}$)
→ Estimate $\sqrt{}$ of non-perfect square #
Show work
→ word problem Similar to warm up today

Attachments

gr 8 u1 sqre test REVIEW WORKSHEET.doc

gr 8 u1 sqre test REVIEW WORKSHEET Nov 25 2016.doc