Warm Up Grade 8

Wednesday, Nov. 28, 2018

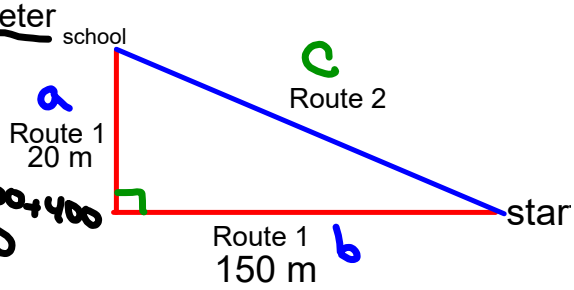
Applying Knowledge

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?

$$\begin{array}{r} 20 \\ \times\ 20 \\ \hline \$\ 400 \end{array} + \begin{array}{r} 150 \\ \times\ 20 \\ \hline \$\ 3000 \end{array}$$

Total 3000+400 = $ 3400

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

Find distance 1st

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

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

$c^2 = 400 + 22500$

$c^2 = 22900$

$c = \sqrt{22900}$

$c = 151.3$ km

Charges $22 for each km

151.3×22

$= \$3026$

c) Who has the better deal for the school?

Jack has a better price.

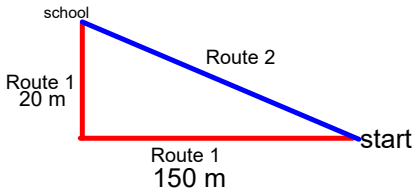
☺

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

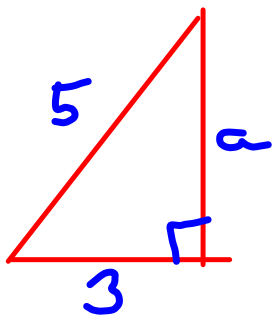
Jack Charges $3328.60

c) Who has the better deal for the school?

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

$3400 - $3328.60 = $71.40

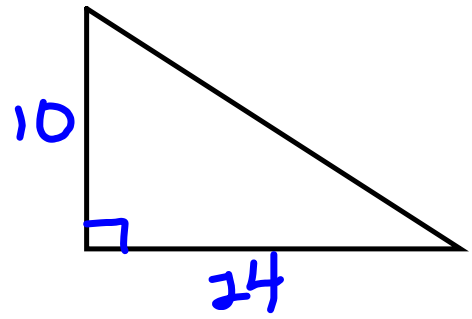
6.



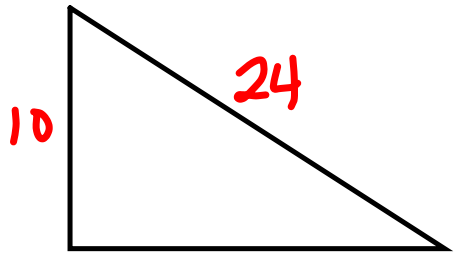
$c^2 = a^2 + b^2$
$5^2 = a^2 + 3^2$
$25 = a^2 + 9$
$25 - 9 = a^2 + 9 - 9$
$16 = a^2$
$\sqrt{16} = \sqrt{a^2}$
$4 = a$

The ladder reaches up 4 m.

7.



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

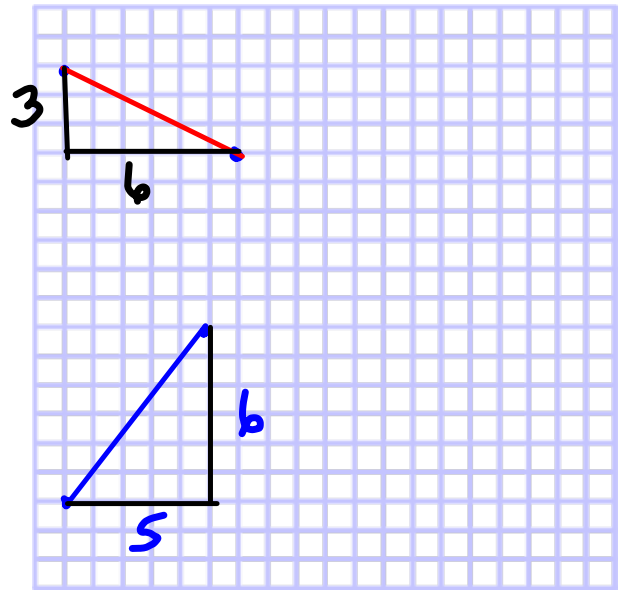


$c^2 = a^2 + b^2$
$24^2 = a^2 + 10^2$
$576 = a^2 + 100$
$576 - 100 = a^2 + 100 - 100$
$476 = a^2$
$\sqrt{476} = \sqrt{a^2}$
$21.8 = a$

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

8

a)

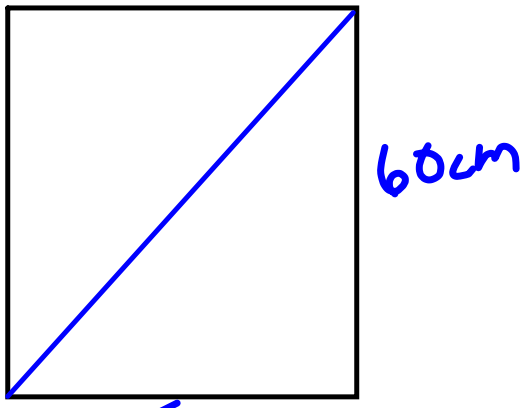


b)

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

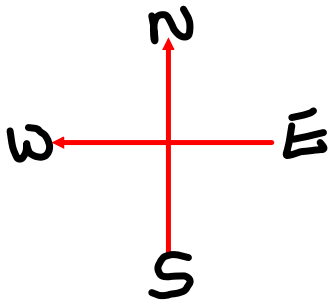
$c^2 = a^2 + b^2$
$c^2 = 5^2 + 6^2$
$c^2 = 25 + 36$
$c^2 = 61$
$\sqrt{c^2} = \sqrt{61}$
$c = 7.8$

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

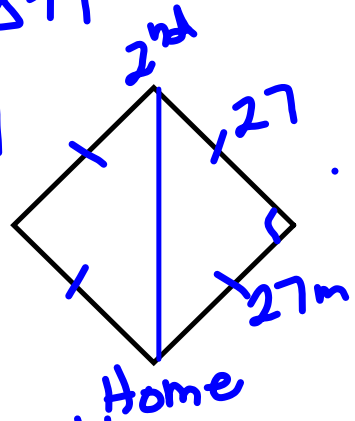
Boat A

$c^2 = a^2 + b^2$
$c^2 = 35^2 + 84^2$
$c^2 = 1225 + 7056$
$c^2 = 8281$
$\sqrt{c^2} = \sqrt{8281}$
$c = 91$ m

The boats are 91 m apart

Pg 49

11.



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

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

$c^2 = 729 + 729$

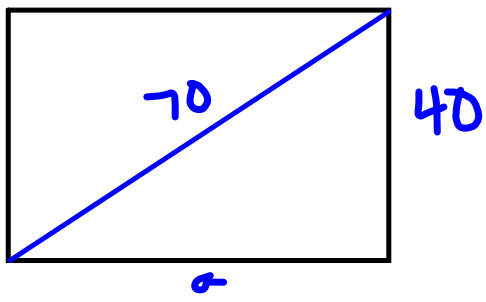
$c^2 = 1458$

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

$c = 38.2\text{m}$

The throw must be 38.2 m

13.



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

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

$4900 = a^2 + 1600$

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

$3300 = a^2$

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

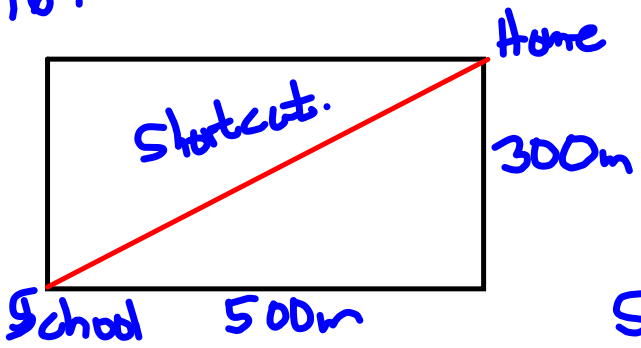
$57.4\text{ cm} = a$

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

Worksheet: Unit 1 Test Review

Complete all questions on the worksheet

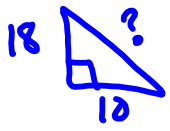
Unit 1 Test

Thursday, Nov. 29

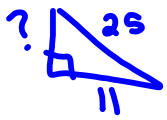
STUDY

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)



Or



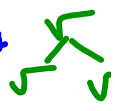
→ use $c^2 = a^2 + b^2$ or $a^2 = c^2 - b^2$ to find lenght of missing sided right Δ

$5^2 = 25$

$\sqrt{121} = 11$

$\sqrt{93}^2 = 93$

→ Diagonal length $c^2 = a^2 + b^2$
→ 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