



Warm Up Grade 8

Friday, Nov. 25, 2016

Similar to test question



Applying Knowledge

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?

$$\text{Route 1} = 20\text{m} + 150\text{m} \\ = 170\text{m}$$

$$170\text{m} \times \$20/\text{m} = \$3400$$

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

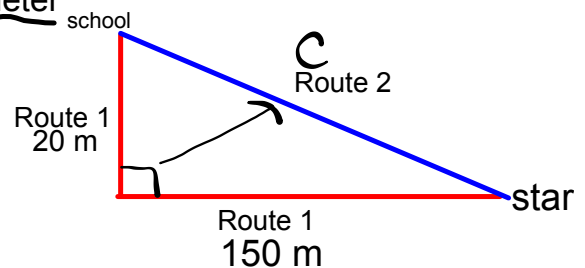
$$C^2 = a^2 + b^2 \\ = (150)^2 + (20)^2$$

$$C^2 = 22500 + 400$$

$$C^2 = 22900$$

$$\sqrt{C^2} = \sqrt{22900}$$

$$C = 151.3\text{m}$$



$$151.3\text{m} \times \$22/\text{m} \\ = \$3328.60$$

c) Who has the better deal for the school?

Jack charges less \$3328.60

$$\begin{array}{r} 3400.00 \\ - 3328.60 \\ \hline 71.40 \end{array}$$

Save \$71.40



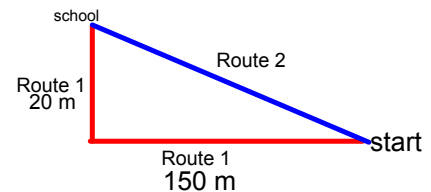
Warm Up Grade 8



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?

$$\begin{array}{r} 20 \text{ m} + 150 \text{ m} = 170 \text{ m} \\ \times \$20 \\ \hline \$3400 \end{array} \quad \text{Ted charges } \$3400$$

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

Need to find route 2 ...THE Hypotenuse

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

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

$$c^2 = 22\,500 \text{ m}^2 + 400 \text{ m}^2$$

$$c^2 = 22\,900 \text{ m}^2$$

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

$$c = 151.3 \text{ m}$$

$$151.3 \times \$22 = \$3328.60$$

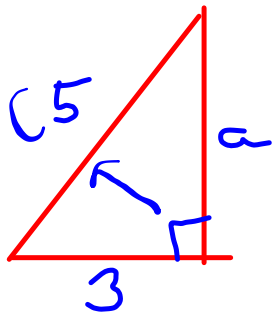
Jack Charges
\$3328.60

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.

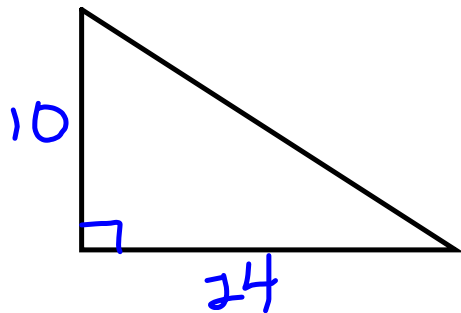


$$\begin{aligned} a^2 &= c^2 - b^2 \\ &= 5^2 - 3^2 \\ a^2 &= 25 - 9 \\ a^2 &= 16 \\ a &= \sqrt{16} \\ a &= 4 \end{aligned}$$

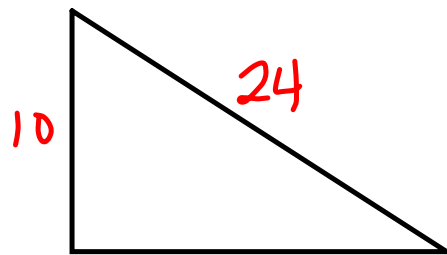
$$\begin{aligned} c^2 &= a^2 + b^2 \\ 5^2 &= a^2 + 3^2 \\ 25 &= a^2 + 9 \\ 25 - 9 &= a^2 + 9 - 9 \\ 16 &= a^2 \\ \sqrt{16} &= \sqrt{a^2} \\ 4 &= a \end{aligned}$$

The ladder reaches up 4 m.

7.



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

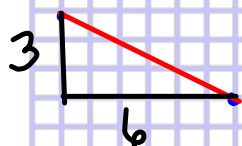


$$\begin{aligned} c^2 &= a^2 + b^2 \\ 24^2 &= a^2 + 10^2 \\ 576 &= a^2 + 100 \\ 576 - 100 &= a^2 + 100 - 100 \\ 476 &= a^2 \\ \sqrt{476} &= \sqrt{a^2} \\ 21.8 &= a \end{aligned}$$

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

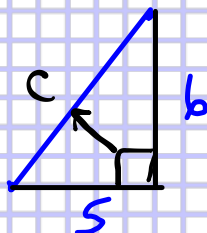
8

a)



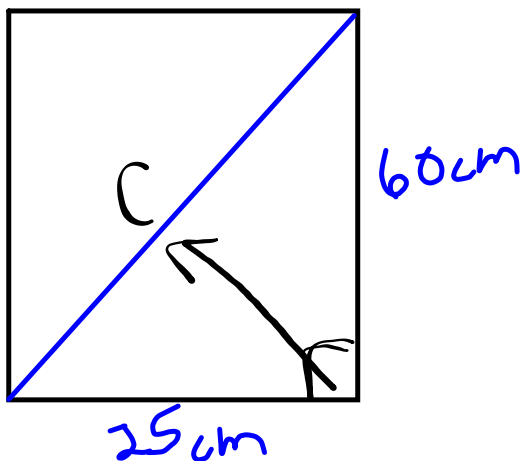
$$\begin{aligned} a) \quad c^2 &= a^2 + b^2 \\ c^2 &= 3^2 + 6^2 \\ c^2 &= 9 + 36 \\ c^2 &= 45 \\ \sqrt{c^2} &= \sqrt{45} \\ c &= 6.7 \end{aligned}$$

b)



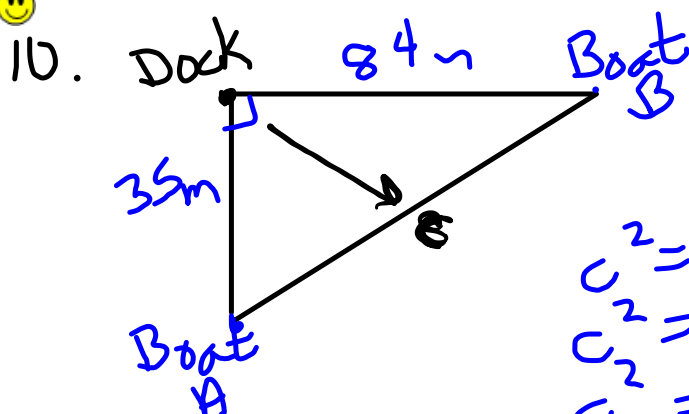
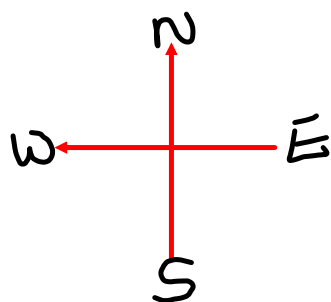
$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 5^2 + 6^2 \\ c^2 &= 25 + 36 \\ c^2 &= 61 \\ \sqrt{c^2} &= \sqrt{61} \\ c &= 7.8 \end{aligned}$$

9.



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

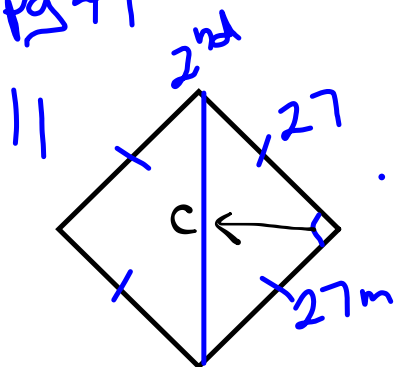
The diagonal should be 65 cm



$$\begin{aligned}c^2 &= a^2 + b^2 \\c^2 &= 35^2 + 84^2 \\c^2 &= 1225 + 7056 \\c^2 &= 8281 \\\sqrt{c^2} &= \sqrt{8281} \\c &= 91\text{m}\end{aligned}$$

The boats
are 91m apart

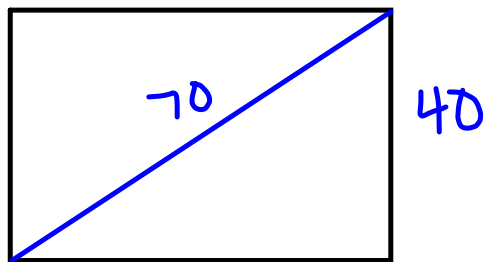
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The throw must
be 38.2 m

$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 c^2 &= 27^2 + 27^2 \\
 c^2 &= 729 + 729 \\
 c^2 &= 1458 \\
 \sqrt{c^2} &= \sqrt{1458} \\
 c &= 38.2 \text{ m}
 \end{aligned}$$

😊 13.



$$\begin{aligned}
 a^2 &= c^2 - b^2 \\
 70^2 - 40^2 \\
 a^2 &= 4900 - 1600 \\
 a^2 &= 3300 \\
 a &= \sqrt{3300}
 \end{aligned}$$

$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 70^2 &= a^2 + 40^2 \\
 4900 &= a^2 + 1600 \\
 4900 - 1600 &= a^2 + 1600 - 1600 \\
 3300 &= a^2 \\
 \sqrt{3300} &= \sqrt{a^2} \\
 57.4 &= a \\
 &\text{cm}
 \end{aligned}$$

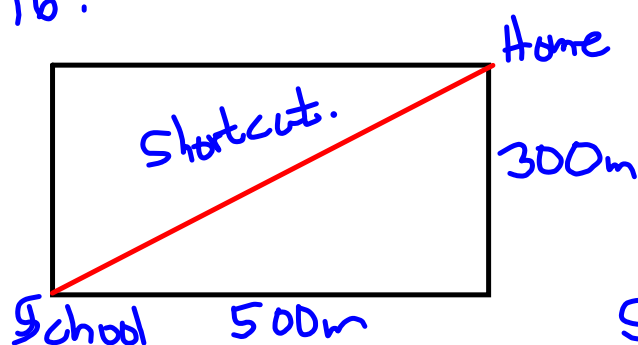
The length is 57.4 cm

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

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

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

$$c^2 = 9000 + 25000$$

$$c^2 = 34000$$

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

$$c = 583$$

$$\begin{array}{r} 791 \\ 800 \\ -583 \\ \hline 217 \end{array}$$

The shortcut is 217m shorter



Class/Homework



Worksheet: Unit 1 Test Review

Complete all questions on the worksheet

36

1 x 36

2 x 18

3 x 12

4 x 9

6 x 6

Factors

1, 2, 3, 4, 6, 9, 12, 18

36

9 factor

odd

so perfect

5 MC

8 Short Response

Unit 1 Test

Tuesday, Nov. 29

STUDY

Attachments

gr 8 u1 sqre test REVIEW WORKSHEET.doc

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