



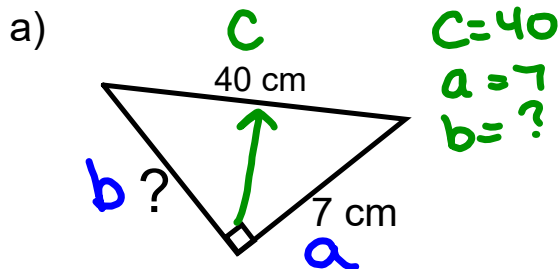
Warm Up Grade 8

Thursday, Nov. 22

TEST
Thursday
NOV. 29

Find the length of the missing side (Use calculators but show your work)

You can use your notes



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

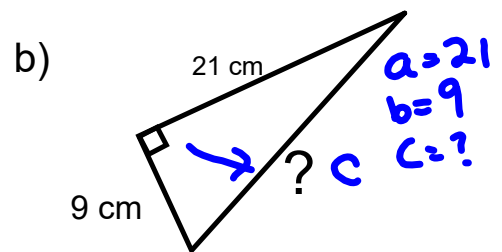
$$b^2 = (40)^2 - (7)^2$$

$$b^2 = 1600 - 49$$

$$b^2 = 1551$$

$$\sqrt{b^2} = \sqrt{1551}$$

$$b \approx 39.3$$



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

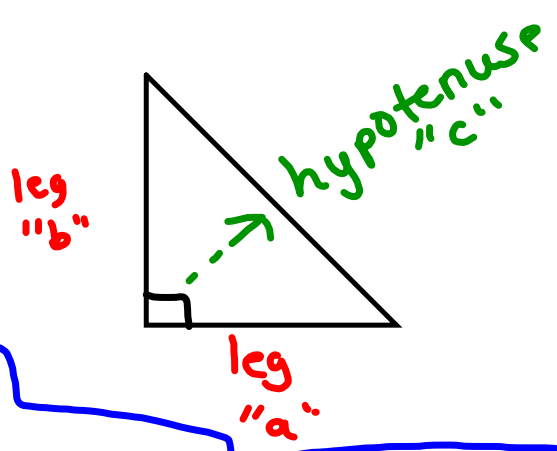
$$c^2 = (21)^2 + (9)^2$$

$$c^2 = 441 + 81$$

$$c^2 = 522$$

$$\sqrt{c^2} = \sqrt{522}$$

$$c \approx 22.8$$



Missing ^{"c"} hypotenuse

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

$$= ()^2 + ()^2$$

square together to get area of square

$$c^2 = \frac{\quad}{\quad} + \frac{\quad}{\quad}$$

add area

$$c^2 = \frac{\quad}{\quad}$$

$$c = \sqrt{\frac{\quad}{\quad}}$$

c = decimal

Missing ^{leg "a" or "b"}

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

$$= ()^2 - ()^2$$

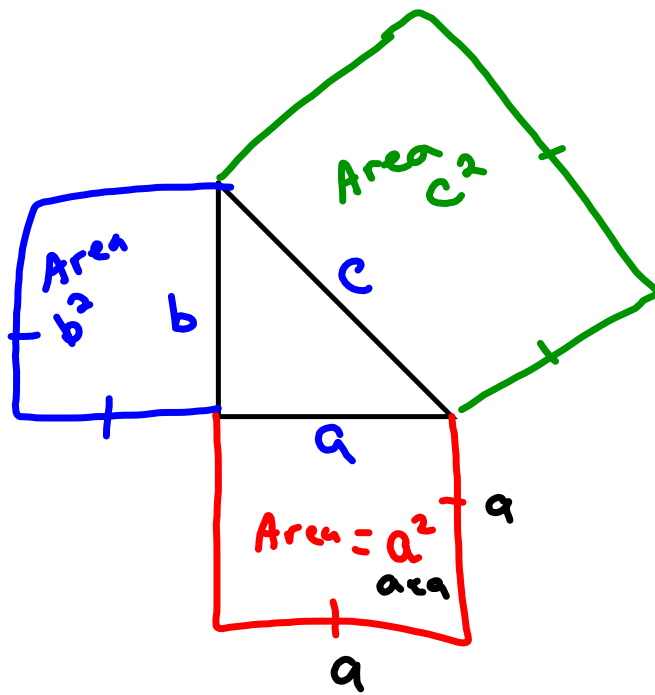
$$b^2 = \frac{\quad}{\quad} - \frac{\quad}{\quad}$$

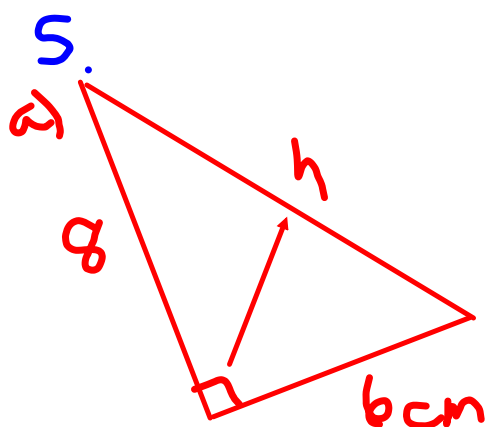
Subtract

$$b^2 = \frac{\quad}{\quad}$$

$$b = \sqrt{\frac{\quad}{\quad}}$$

b = decimal





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

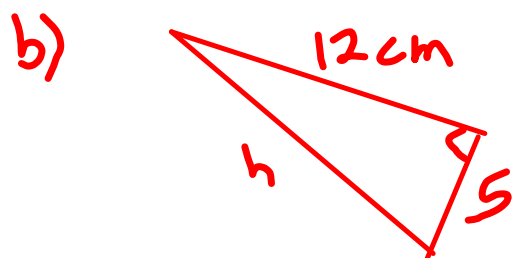
$$c^2 = 8^2 + 6^2$$

$$c^2 = 64 + 36$$

$$c^2 = 100$$

$$\sqrt{c^2} = \sqrt{100}$$

$$c = 10 \text{ cm}$$



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

$$c^2 = 12^2 + 5^2$$

$$c^2 = 144 + 25$$

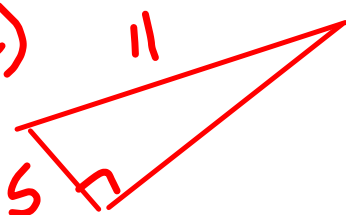
$$c^2 = 169$$

$$\sqrt{c^2} = \sqrt{169}$$

$$c = 13 \text{ cm}$$

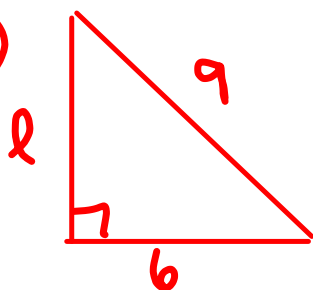
6

c)



$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 11^2 &= a^2 + 5^2 \\
 121 &= a^2 + 25 \\
 121 - 25 &= a^2 + 25 - 25 \\
 96 &= a^2 \\
 \sqrt{96} &= \sqrt{a^2} \\
 9.8 &= a
 \end{aligned}$$

d)

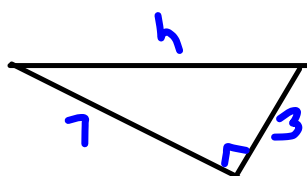


$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 9^2 &= a^2 + 6^2 \\
 81 &= a^2 + 36 \\
 81 - 36 &= a^2 + 36 - 36 \\
 45 &= a^2 \\
 \sqrt{45} &= \sqrt{a^2} \\
 6.7 &= a
 \end{aligned}$$

Homework solutions

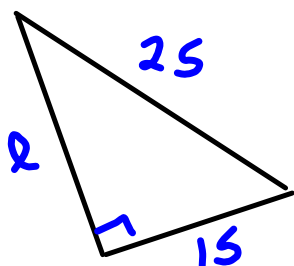
Pg 34

7a)



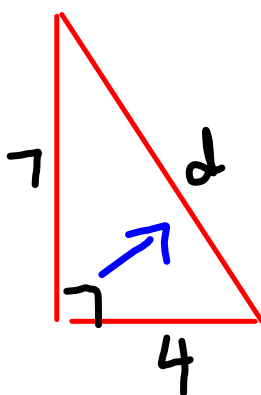
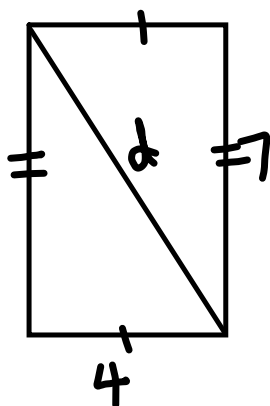
$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 7^2 + 3^2 \\ c^2 &= 49 + 9 \\ c^2 &= 58 \\ \sqrt{c^2} &= \sqrt{58} \\ c &= 7.6 \end{aligned}$$

b)



$$\begin{aligned} c^2 &= a^2 + b^2 \\ 25^2 &= a^2 + 15^2 \\ 625 &= a^2 + 225 \\ 625 - 225 &= a^2 + 225 - 225 \\ 400 &= a^2 \\ \sqrt{400} &= \sqrt{a^2} \\ 20 &= a \end{aligned}$$

a) 😊



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

$$c^2 = 7^2 + 4^2$$

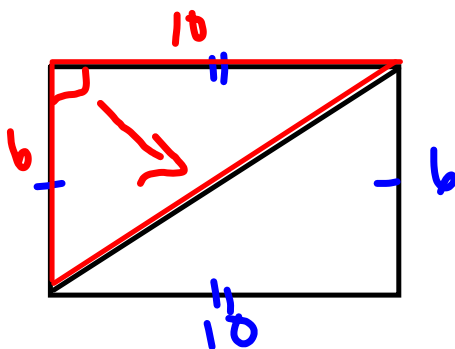
$$c^2 = 49 + 16$$

$$c^2 = 65$$

$$\sqrt{c^2} = \sqrt{65}$$

$$c = 8.1$$

b) 😊



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

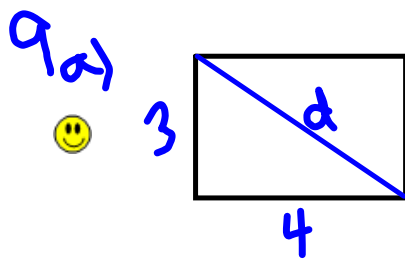
$$c^2 = 10^2 + 6^2$$

$$c^2 = 100 + 36$$

$$c^2 = 136$$

$$\sqrt{c^2} = \sqrt{136}$$

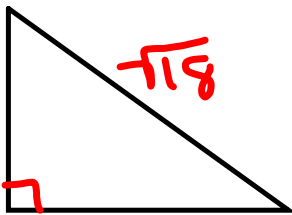
$$c = 11.7$$



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

10.
If you know the side lengths of a right triangle, the hypotenuse will be the largest number since it is always the longest side.

12. 😊



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

$$(\sqrt{18})^2 = a^2 + b^2$$

$$18 = a^2 + b^2$$

$$9 + 9 = 18$$

$$9 = a^2 \quad 9 = b^2$$

$$3 = a \quad 3 = b$$

$$6 + 12 = 18$$

$$a^2 = 6 \quad b^2 = 12$$

$$a = \sqrt{6} \quad b = \sqrt{12}$$

$$16 + 8 = 18$$

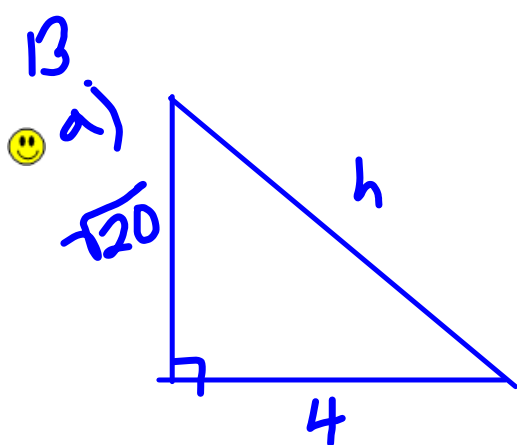
$$a^2 = 16 \quad b^2 = 8$$

$$\sqrt{a^2} = \sqrt{16}$$

$$1 + 17 = 18$$

$$a^2 = 1 \quad b^2 = 17$$

$$a = \sqrt{1} \quad b = \sqrt{17}$$

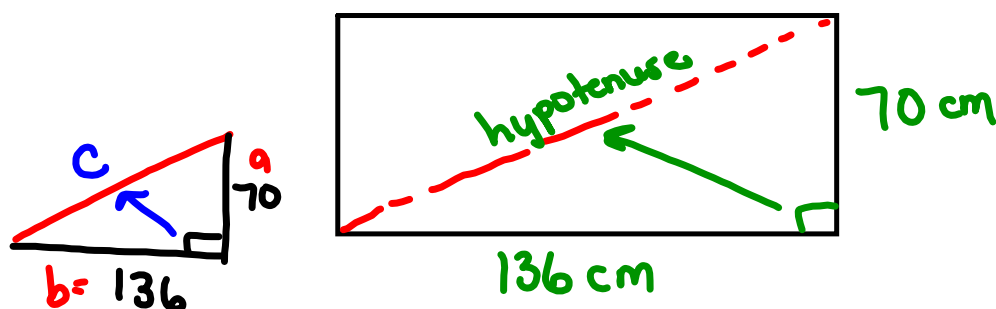


$$\frac{\sqrt{20} \times \sqrt{20}}{\sqrt{20 \times 20}}$$

20

$$\begin{aligned}c^2 &= a^2 + b^2 \\c^2 &= (\sqrt{20})^2 + 4^2 \\c^2 &= 20 + 16 \\c^2 &= 36 \\ \sqrt{c^2} &= \sqrt{36} \\c &= 6\end{aligned}$$

Can a rectangular hockey bag with dimensions of 136 cm by 70 cm, hold a hockey stick of lengths 150 cm?



$$\begin{aligned} c^2 &= a^2 + b^2 \\ &= (70)^2 + (136)^2 \\ &= 4900 + 18496 \end{aligned}$$

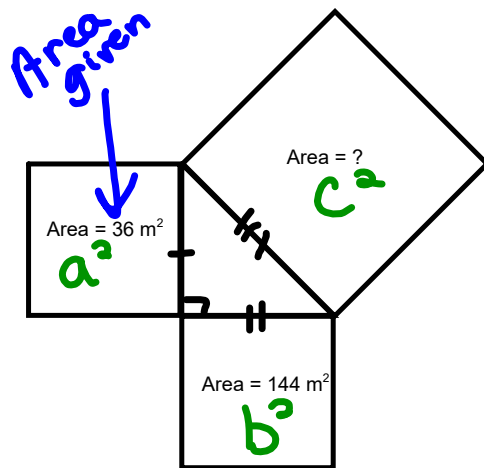
$$c^2 = 23396$$

$$\sqrt{c^2} = \sqrt{23396}$$

$$c \approx 152.95$$

So a hockey stick that is 150cm can fit diagonally 152.95cm.

Find the area of the indicated square



want "c²"

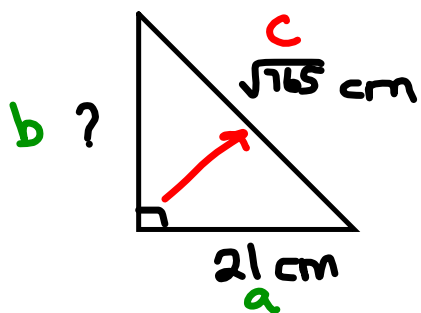
$$c^2 = a^2 + b^2$$

area of square
area of square

$$c^2 = 36 + 144$$

$$c^2 = 180 \text{ m}^2$$

Find the length of the missing side



$$c = \sqrt{765}$$

$$a = 21$$

$$b = ?$$

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

$$= (\sqrt{765})^2 - (21)^2$$

$$b^2 = 765 - 441$$

$$b^2 = 324$$

$$\sqrt{b^2} = \sqrt{324}$$

$$b = 18$$

Study
Remember
 $(\sqrt{x})^2 = x$
 $\sqrt{x^2} = x$

Different from last day

Class/Homework

pg. 34 - 35

redo if
wrong

~~1, 2, 3, 4~~ 5(c,d), 6(a,b), 7(c), 8(c), 9(b,c), 10, 12, 13(c)

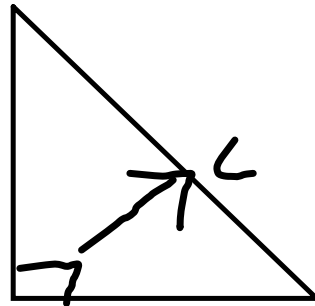
REMEMBER

$$(\sqrt{20})^2 = 20$$

$$\sqrt{20} \times \sqrt{20}$$

$$\sqrt{20 \times 20}$$

$$20$$



Make sure to
check if you
are finding
c or a

$$c = \sqrt{18}$$
$$c^2 = 18$$

$$c^2 = a^2 + b^2$$
$$18 = \sqrt{6^2} + \sqrt{3^2}$$

$$18 = 9 + 9$$
$$\sqrt{9} + \sqrt{9}$$
$$3 + 3$$
$$a + b$$

