



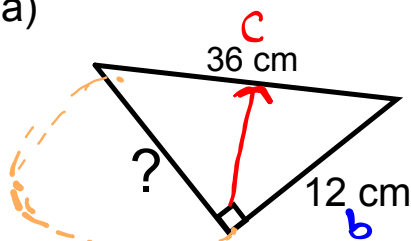
Warm Up Grade 8

Monday, Nov. 21

TEST
TUESDAY
NOV. 29

Find the length of the missing side (Use calculators but show your work)
You can use your notes

a)



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

$$a = \sqrt{c^2 - b^2}$$

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

$$a^2 = (36)^2 - (12)^2$$

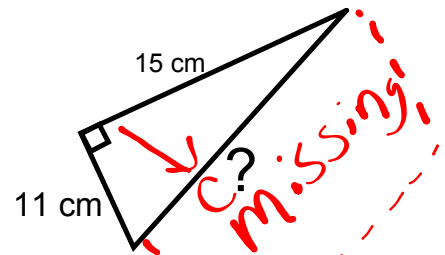
$$a^2 = 1296 - 144$$

$$a^2 = 1152$$

$$\sqrt{a^2} = \sqrt{1152}$$

$$a = 33.9 \text{ cm}$$

b)



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

$$= 11^2 + 15^2$$

$$= 121 + 225$$

$$c^2 = 346$$

$$\sqrt{c} = \sqrt{346}$$

$$c = 18.6 \text{ cm}$$

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

$$\sqrt{x^2} = x$$

$$\sqrt{17^2} = 17$$

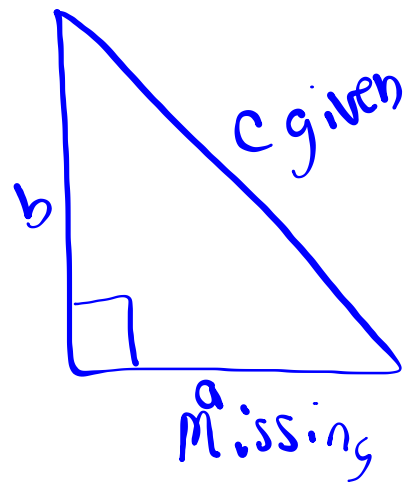
$$\sqrt{17 \times 17} = 17$$

$$\begin{aligned} a^2 &= c^2 - b^2 \\ &= (\quad)^2 - (\quad)^2 \\ &= \underline{\quad} - \underline{\quad} \end{aligned}$$

$$a^2 = \underline{\quad}$$

$$\sqrt{a^2} = \sqrt{\underline{\quad}}$$

$$a = \underline{\quad}$$



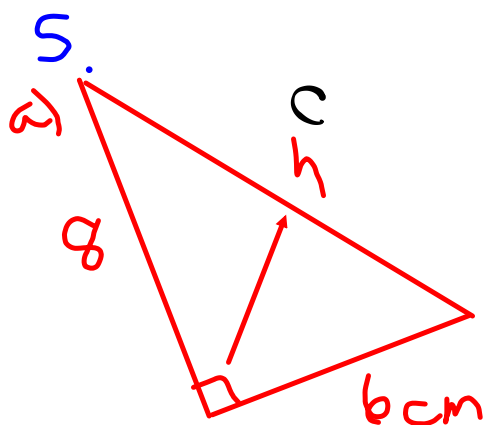
$x^2 \rightarrow$ Square

$\sqrt{\quad} \rightarrow$ Square root

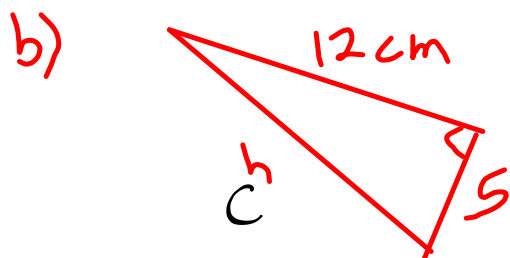
$$\downarrow a^2 = c^2 - b^2$$

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

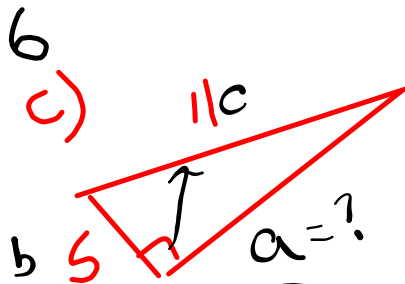
longest



$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 c^2 &= 8^2 + 6^2 \\
 c^2 &= 64 + 36 \\
 c^2 &= 100 \\
 \sqrt{c^2} &= \sqrt{100} \\
 c &= 10 \text{ cm}
 \end{aligned}$$



$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 c^2 &= 12^2 + 5^2 \\
 c^2 &= 144 + 25 \\
 c^2 &= 169 \\
 \sqrt{c^2} &= \sqrt{169} \\
 c &= 13 \text{ cm}
 \end{aligned}$$



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

$$11^2 - 5^2$$

$$121 - 25$$

$$a^2 = 96$$

$$a = \sqrt{96}$$

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

$$11^2 = a^2 + 5^2$$

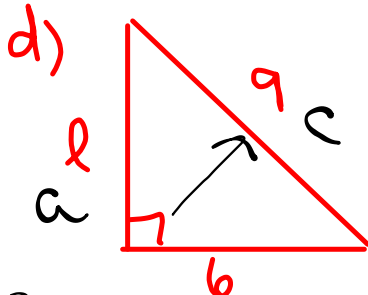
$$121 = a^2 + 25$$

$$121 - 25 = a^2 + 25 - 25$$

$$96 = a^2$$

$$\sqrt{96} = \sqrt{a^2}$$

$$9.8 = a$$



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

$$= 9^2 - 6^2$$

$$= 81 - 36$$

$$a^2 = 45$$

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

$$9^2 = a^2 + 6^2$$

$$81 = a^2 + 36$$

$$81 - 36 = a^2 + 36 - 36$$

$$45 = a^2$$

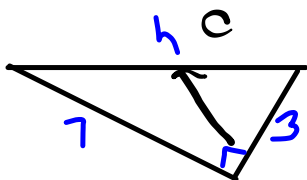
$$\sqrt{45} = \sqrt{a^2}$$

$$6.7 = a$$

Homework solutions

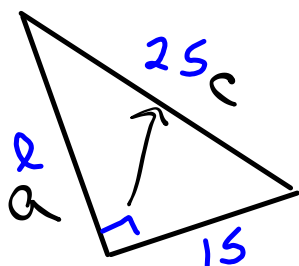
Pg 34

7a)



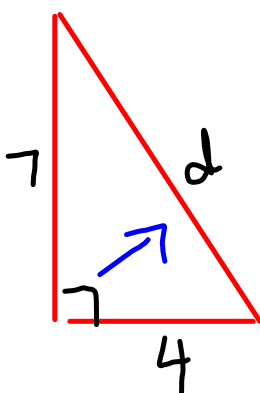
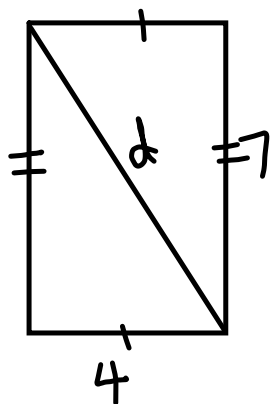
$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 c^2 &= 7^2 + 3^2 \\
 c^2 &= 49 + 9 \\
 c^2 &= 58 \\
 \sqrt{c^2} &= \sqrt{58} \\
 c &= 7.6
 \end{aligned}$$

b)



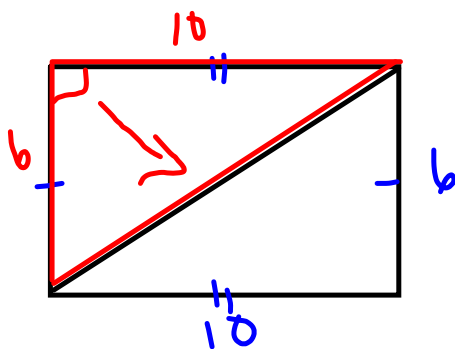
$$\begin{aligned}
 c^2 &= a^2 + b^2 \\
 25^2 &= a^2 + 15^2 \\
 625 &= a^2 + 225 \\
 625 - 225 &= a^2 + 225 - 225 \\
 400 &= a^2 \\
 \sqrt{400} &= \sqrt{a^2} \\
 20 &= a
 \end{aligned}$$

a) ☺

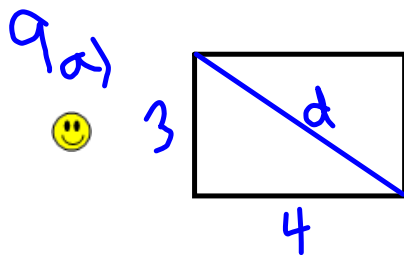


$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 7^2 + 4^2 \\ c^2 &= 49 + 16 \\ c^2 &= 65 \\ \sqrt{c^2} &= \sqrt{65} \\ c &= 8.1 \end{aligned}$$

b) ☺



$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 10^2 + 6^2 \\ c^2 &= 100 + 36 \\ c^2 &= 136 \\ \sqrt{c^2} &= \sqrt{136} \\ c &= 11.7 \end{aligned}$$

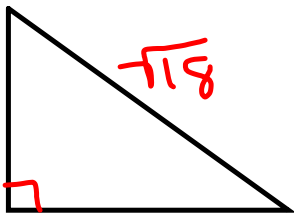


$$c^2 = a^2 + b^2$$
$$c^2 = 3^2 + 4^2$$
$$c^2 = 9 + 16$$
$$c^2 = 25$$
$$\sqrt{c^2} = \sqrt{25}$$
$$c = 5$$

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. 😊



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

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

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

$$9 + 9 = 18$$

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

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

$$6 + 12 = 18$$

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

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

$$16 + 8 = 18$$

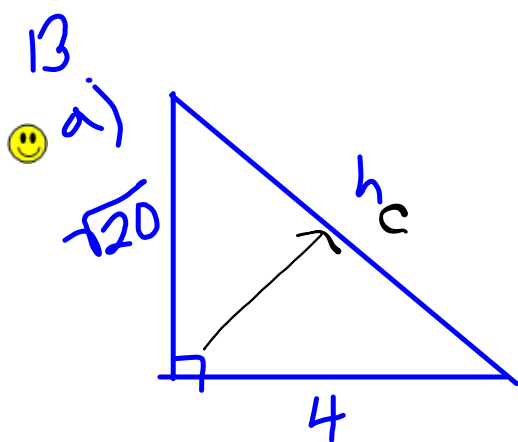
$$a^2 = 16 \quad b^2 = 8$$

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

$$1 + 17 = 18$$

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

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



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

20

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

$$c^2 = (\sqrt{20})^2 + 4^2$$

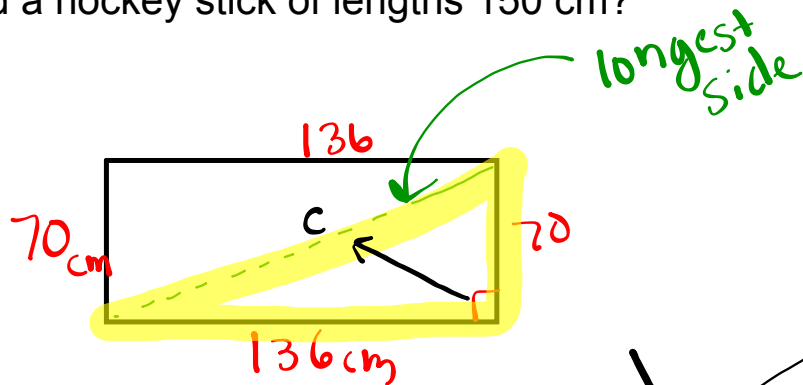
$$c^2 = 20 + 16$$

$$c^2 = 36$$

$$\sqrt{c^2} = \sqrt{36}$$

$$c = 6$$

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



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

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

$$c^2 = (136\text{cm})^2 + (70\text{cm})^2$$

$$c^2 = 18496 + 4900$$

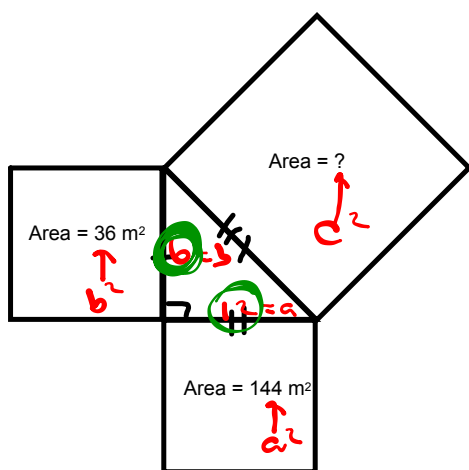
$$c^2 = 23396$$

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

$$c = 152.95\text{ cm}$$

The diagonal is 152 cm so a hockey stick of length of 150 cm could sit in diagonally.

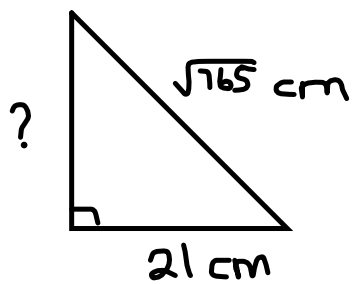
Find the area of the indicated square



$$c^2 = a^2 + b^2$$
$$= 36 + 144$$

$$c^2 = 180$$

Find the length of the missing side



Differenty from last day with supply

Class/Homework

pg. 34 - 35

redo if
wrong

H.W.

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

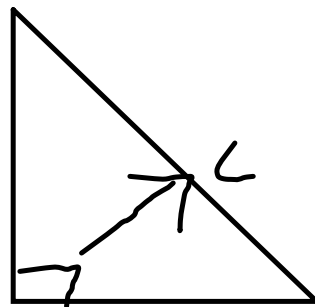
REMEMBER

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

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

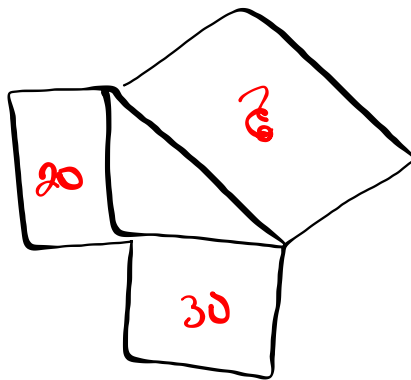
$$\sqrt{20 \times 20}$$

$$20$$



Make sure to
check if you
are finding
c or a

3a)



given $a^2 = 20$
 $b^2 = 30$
 $c^2 = ?$

$$c^2 = \underbrace{a^2}_{20} + \underbrace{b^2}_{30}$$
$$c^2 = 50$$

