Mental Math

1. $3.97 + $5.98

3.97 + 6.00 → added too much (2cent)

9.97

Remove 2cent

$9.95

2. $13 \div \frac{1}{2}$

how many $\frac{1}{2}$ are in 13

26

$13 \div \frac{1}{2}$

$\frac{13}{1} \times \frac{2}{1}$

$\frac{26}{1}$

3. 25% of 20

like ÷ by 4

= 5

List the perfect square numbers up until 225

$1^2 = 1 \times 1 = 1$

$2^2 = 2 \times 2 = 4$

$3^2 = 3 \times 3 = 9$

$4^2 = 4 \times 4 = 16$

$5^2 = 5 \times 5 = 25$

$6^2 = 36$

$7^2 = 49$

$8^2 = 64$

$9^2 = 81$

$10^2 = 100$

$11^2 = 121$

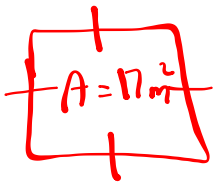
$12^2 = 144$

$13^2 = 169$

$14^2 = 196$

$15^2 = 225$

Rebecca was shopping online and found a square rug with an area of 17 m^2. The dimensions of her bedroom are 4 m x 5 m. Will the rug fit in her room? Explain.

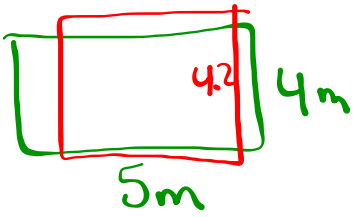


Side = $\sqrt{\text{Area}}$

$= \sqrt{17}$

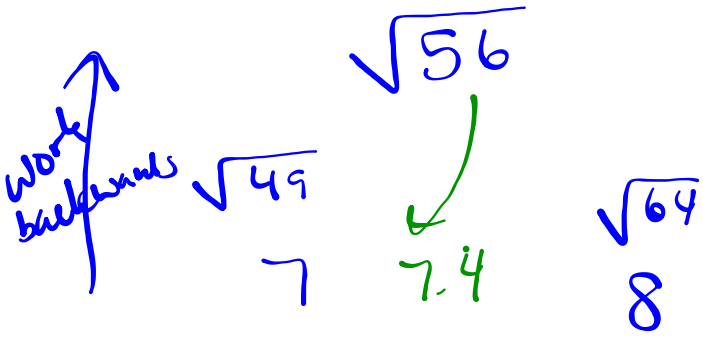
$\sqrt{16}$ $\sqrt{25}$

4 ≈4.2 5



The Rug will not fit in the room since side ≈4.2m and Room is 4m

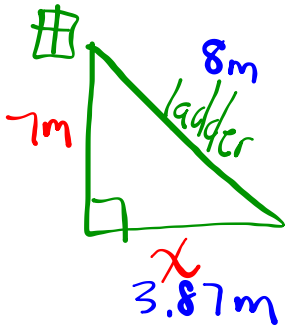
Identify a whole number with a square root between 7 and 8.



For safety reasons a construction company established the following rule.

When placing a ladder against the side of a building, the distance of the base of the ladder from the wall should be at least 1/2of the length of the ladder.

Can an 8 m ladder reach a 7 m window when this rule is followed?



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

$8^2 - 7^2$

$64 - 49$

$a^2 = 15$

$a = \sqrt{15}$

$a = 3.87\text{m}$

Not safe

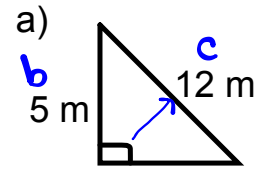
Since distance needs to be at least 4m and we have 3.87m

Find the missing side. $c^2 = a^2 + b^2$ Missing hyp

or

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

a)



Missing leg

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

$= (12m)^2 - (5m)^2$

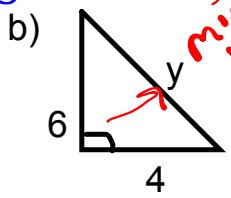
$= 144m^2 - 25m^2$

$a^2 = 119m^2$

$a = \sqrt{119m^2}$

$a \approx 10.9m$

b)



missing hyp

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

$c^2 = 4^2 + 6^2$

$c^2 = 16 + 36$

$c^2 = 52$

$\sqrt{c^2} = \sqrt{52}$

$c = 7.2$

Practice Questions

Booklet (DO NOT MARK ON THEM DO ALL WORK ON YOUR OWN PAPER...SHOW ALL WORK)