

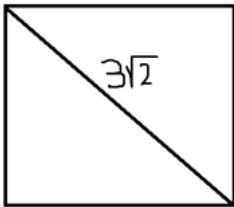
EST JANUARY 2025

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No calc:

1-What is the area of the square knowing that its diagonal is $3\sqrt{2}$?



2- Which of the following is equivalent to

$$\frac{1}{\frac{1}{x+1}-1} \text{ if } x \neq 1?$$

Calc:

10, 15, 15, 20, 21, 22, 25, 28, 29, 30

1-What is the interquartile range of the following numbers?

2- 14 students making a chemistry experiment and record the time they spent in minutes find the median from the following table below?

1	3, 4, 5
2	2, 7, 8, 9
3	1, 6, 6, 9, 9, 9
4	0, 1

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3-Rectangular prism with height of **4cm** and volume of **216cm^3** , if the ratio between the 2 sides of the base is **3 : 2**, what is the length of the base?

4-If there is a container containing **12** red balls, **15** green balls and **10** gray balls, what is the probability of drawing 2 balls that aren't gray knowing that their will no replacement done?

5-If **$2x^4 + x^2 - x + 1$** is divided by **$x - 3$** , what is the remainder of this division?

6-If $8^{2x-1}=512$, what is the value of x ?

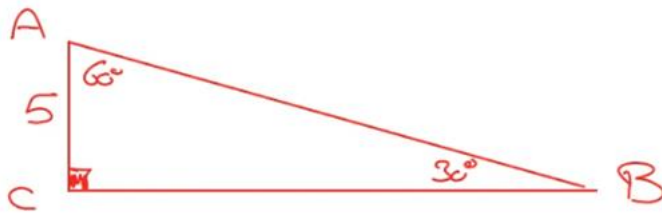
7- $\sqrt[4]{x^8y^9}$ simplify?

8-What is the range of $f(x) = 2 + \frac{3}{x-4}$?

- a) $(-\infty,4) \cup (4,\infty)$
- b) $(-\infty,\infty)$
- c) $(-\infty,2) \cup (2,\infty)$
- d) $(-\infty,-2) \cup (-2,\infty)$

9-If triangle REF is right angle at R and the measure of angle E is 45° , if line RE = **4.4cm**, find line EF length?

10-Find LINE AB?



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11-If the relation in the table below is linear, what is the value of AB?

x	y
2	7
4	B
A	17
8	16

12-Three numbers with ratios **3:11:13** and their sum is **729** , what is the greatest number?

13-Adel plays a video games. If he wins a game he earn **4£** , if he loses he pays **2€** . and the ratio of winning to losing is **4 to 5** and He gained **12£** at last, How many games he played ?

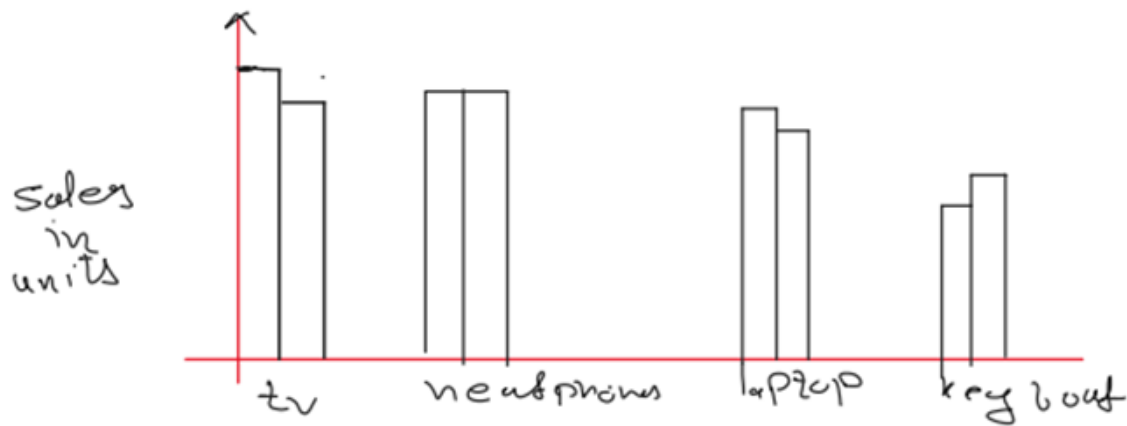
14-NADA who borrowed **16,000** from the bank with an interest rate of **2.5%** per year. How much will she pay to the bank after 4 years?

15-If **Y** directly varies with **x²** and when **y=3, x=4** then when **x=5 y=?**

16-Shawky played video game that scored with points , he has **0.4** chance to score to score more than **20** points , if he played **7** games what is the chance of getting a score more than **20** points to the nearest whole number?

$$17- 2(2x+3) -5 = (2+a)x +3$$

What is the value of a to make the expression above has no real solutions?



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18- If **2022 and 2023** was the same revenue, what is the reason

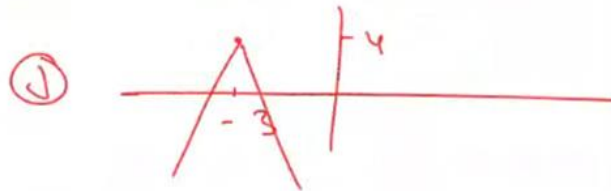
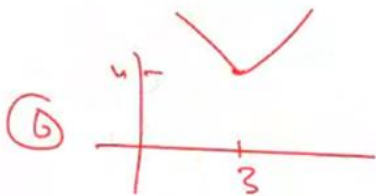
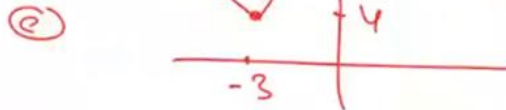
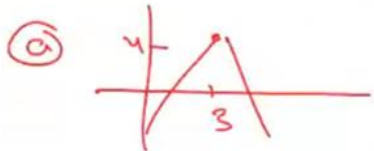
- a) The prices of the unit decreased
- b) The prices of the units increased
- c) The prices were the same
- d) Can't find a proper reason

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19-

$$y = -|x + 3| + 4$$

find The graph.



20- If $2x^3y^3 + 3x^4y + x^2$, What is the greatest degree?

21- What score out of 100 should ahmed get in his 6th test to make the average of the

six exams **78**, while his average for the first five exams is **75**?

22- data set with mean of 100 and sum=3000
find the number of values in the data set.

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