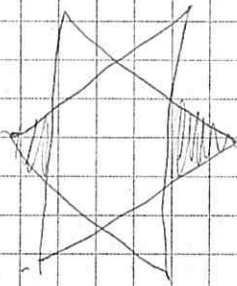
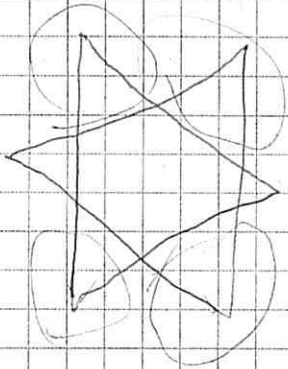
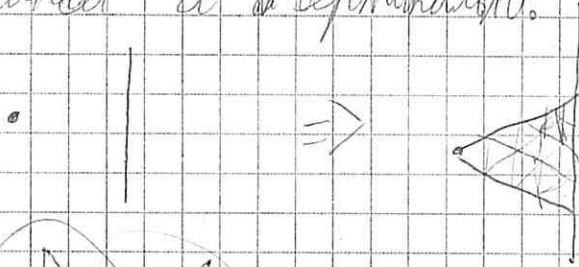


Давай же будем заштриховывать
вершинкой и вертикалью.



Заметим, что в обведенных
треугольничках мы не можем
взять для каждой вершинки,
т.к. из нее выйдут только 2
прямые, одна из которых уже
вертикаль.

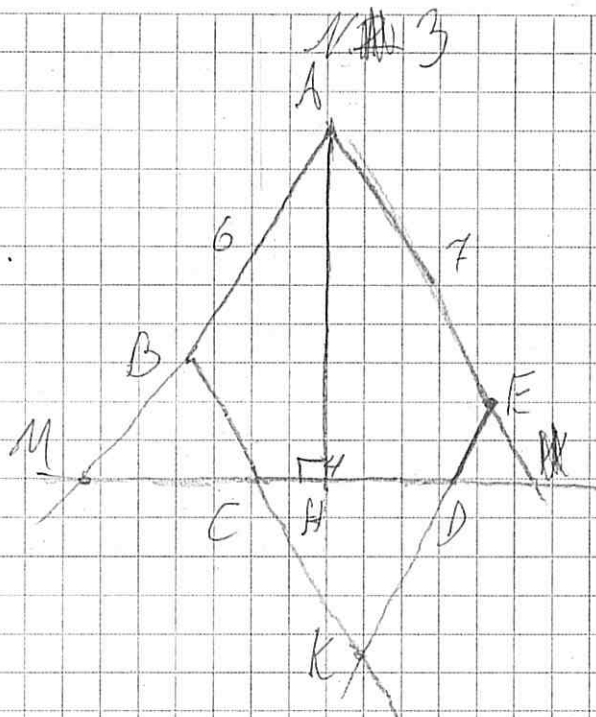
Если мы выберем одну из
20 вершин двух покрашенных
треугольничков, то к ней мы
можем взять максимум из 13
вертикалей. 20×13

Если же мы выберем одну из вершин центрального
шестиугольника, к ней подходит все вертикали,
кроме той на которой она сама стоит. 6×12 .

Доведено что мы не выберем ни один треугольничек
дважды, т.к. ~~у каждой вершинки~~ ~~ни~~ ~~одного~~ ~~треугольничка~~
однозначно заданы вершинкой углы и прямая.

Также мы разобрали все вершинки, следовательно
все треугольнички

Ответ: $20 \cdot 13 + 6 \cdot 12$



Дано:
 $\angle A = 60^\circ$ $\angle B = \angle C = \angle D = \angle E$
 $AB = 6$ $CD = 4$
 $AE = x$
 Найти: Длину
 от A до CD
 Длина.

Сумма углов 5-уг. $= 540^\circ \Rightarrow \angle B = \angle C = \angle D = \angle E = \frac{540-60}{4} = 120^\circ$
 Прямые BC и ED по K
 Прямые DC и AB по M
~~Прямые CD и AE по H~~

$\angle A + \angle B = 180^\circ \Rightarrow AE \parallel BC$
 $\angle A + \angle E = 180^\circ \Rightarrow AB \parallel ED$
 $\angle KCE = 180^\circ - \angle C = 60^\circ$
 $\angle K = 60^\circ$
 $\Rightarrow \triangle KCD$ - равносторонний $\Rightarrow KC = 4$

$BC = KC = 4 = AB - 6 = 6 - 2 = 4$
 $\angle ABC = 120^\circ$
 $\angle BMC = 180^\circ - 120^\circ = 60^\circ$
 $\angle MCB = 180^\circ - 120^\circ = 60^\circ$
 $\Rightarrow \triangle BMC$ - равносторонний $\Rightarrow \angle M = 60^\circ$
 $MB = 3$

$AB = 6$
 $MB = 3$

Опустим на CD перпенд. AH

$\angle M = 60^\circ$
 $\angle MHA = 90^\circ \Rightarrow AH = \frac{AM}{2} \cdot \sqrt{3} = 4,5 \cdot \sqrt{3}$
 Ответ: $4,5 \cdot \sqrt{3}$

Дл. ~~201~~ ~~2013~~ ~~2014~~ ~~2015~~ ~~2016~~ ~~2017~~ ~~2018~~ ~~2019~~ ~~2020~~ ~~2021~~ ~~2022~~ ~~2023~~ ~~2024~~ ~~2025~~ ~~2026~~ ~~2027~~ ~~2028~~ ~~2029~~ ~~2030~~ ~~2031~~ ~~2032~~ ~~2033~~ ~~2034~~ ~~2035~~ ~~2036~~ ~~2037~~ ~~2038~~ ~~2039~~ ~~2040~~ ~~2041~~ ~~2042~~ ~~2043~~ ~~2044~~ ~~2045~~ ~~2046~~ ~~2047~~ ~~2048~~ ~~2049~~ ~~2050~~ ~~2051~~ ~~2052~~ ~~2053~~ ~~2054~~ ~~2055~~ ~~2056~~ ~~2057~~ ~~2058~~ ~~2059~~ ~~2060~~ ~~2061~~ ~~2062~~ ~~2063~~ ~~2064~~ ~~2065~~ ~~2066~~ ~~2067~~ ~~2068~~ ~~2069~~ ~~2070~~ ~~2071~~ ~~2072~~ ~~2073~~ ~~2074~~ ~~2075~~ ~~2076~~ ~~2077~~ ~~2078~~ ~~2079~~ ~~2080~~ ~~2081~~ ~~2082~~ ~~2083~~ ~~2084~~ ~~2085~~ ~~2086~~ ~~2087~~ ~~2088~~ ~~2089~~ ~~2090~~ ~~2091~~ ~~2092~~ ~~2093~~ ~~2094~~ ~~2095~~ ~~2096~~ ~~2097~~ ~~2098~~ ~~2099~~ ~~2100~~ ~~2101~~ ~~2102~~ ~~2103~~ ~~2104~~ ~~2105~~ ~~2106~~ ~~2107~~ ~~2108~~ ~~2109~~ ~~2110~~ ~~2111~~ ~~2112~~ ~~2113~~ ~~2114~~ ~~2115~~ ~~2116~~ ~~2117~~ ~~2118~~ ~~2119~~ ~~2120~~ ~~2121~~ ~~2122~~ ~~2123~~ ~~2124~~ ~~2125~~ ~~2126~~ ~~2127~~ ~~2128~~ ~~2129~~ ~~2130~~ ~~2131~~ ~~2132~~ ~~2133~~ ~~2134~~ ~~2135~~ ~~2136~~ ~~2137~~ ~~2138~~ ~~2139~~ ~~2140~~ ~~2141~~ ~~2142~~ ~~2143~~ ~~2144~~ ~~2145~~ ~~2146~~ ~~2147~~ ~~2148~~ ~~2149~~ ~~2150~~ ~~2151~~ ~~2152~~ ~~2153~~ ~~2154~~ ~~2155~~ ~~2156~~ ~~2157~~ ~~2158~~ ~~2159~~ ~~2160~~ ~~2161~~ ~~2162~~ ~~2163~~ ~~2164~~ ~~2165~~ ~~2166~~ ~~2167~~ ~~2168~~ ~~2169~~ ~~2170~~ ~~2171~~ ~~2172~~ ~~2173~~ ~~2174~~ ~~2175~~ ~~2176~~ ~~2177~~ ~~2178~~ ~~2179~~ ~~2180~~ ~~2181~~ ~~2182~~ ~~2183~~ ~~2184~~ ~~2185~~ ~~2186~~ ~~2187~~ ~~2188~~ ~~2189~~ ~~2190~~ ~~2191~~ ~~2192~~ ~~2193~~ ~~2194~~ ~~2195~~ ~~2196~~ ~~2197~~ ~~2198~~ ~~2199~~ ~~2200~~ ~~2201~~ ~~2202~~ ~~2203~~ ~~2204~~ ~~2205~~ ~~2206~~ ~~2207~~ ~~2208~~ ~~2209~~ ~~2210~~ ~~2211~~ ~~2212~~ ~~2213~~ ~~2214~~ ~~2215~~ ~~2216~~ ~~2217~~ ~~2218~~ ~~2219~~ ~~2220~~ ~~2221~~ ~~2222~~ ~~2223~~ ~~2224~~ ~~2225~~ ~~2226~~ ~~2227~~ ~~2228~~ ~~2229~~ ~~2230~~ ~~2231~~ ~~2232~~ ~~2233~~ ~~2234~~ ~~2235~~ ~~2236~~ ~~2237~~ ~~2238~~ ~~2239~~ ~~2240~~ ~~2241~~ ~~2242~~ ~~2243~~ ~~2244~~ ~~2245~~ ~~2246~~ ~~2247~~ ~~2248~~ ~~2249~~ ~~2250~~ ~~2251~~ ~~2252~~ ~~2253~~ ~~2254~~ ~~2255~~ ~~2256~~ ~~2257~~ ~~2258~~ ~~2259~~ ~~2260~~ ~~2261~~ ~~2262~~ ~~2263~~ ~~2264~~ ~~2265~~ ~~2266~~ ~~2267~~ ~~2268~~ ~~2269~~ ~~2270~~ ~~2271~~ ~~2272~~ ~~2273~~ ~~2274~~ ~~2275~~ ~~2276~~ ~~2277~~ ~~2278~~ ~~2279~~ ~~2280~~ ~~2281~~ ~~2282~~ ~~2283~~ ~~2284~~ ~~2285~~ ~~2286~~ ~~2287~~ ~~2288~~ ~~2289~~ ~~2290~~ ~~2291~~ ~~2292~~ ~~2293~~ ~~2294~~ ~~2295~~ ~~2296~~ ~~2297~~ ~~2298~~ ~~2299~~ ~~2300~~ ~~2301~~ ~~2302~~ ~~2303~~ ~~2304~~ ~~2305~~ ~~2306~~ ~~2307~~ ~~2308~~ ~~2309~~ ~~2310~~ ~~2311~~ ~~2312~~ ~~2313~~ ~~2314~~ ~~2315~~ ~~2316~~ ~~2317~~ ~~2318~~ ~~2319~~ ~~2320~~ ~~2321~~ ~~2322~~ ~~2323~~ ~~2324~~ ~~2325~~ ~~2326~~ ~~2327~~ ~~2328~~ ~~2329~~ ~~2330~~ ~~2331~~ ~~2332~~ ~~2333~~ ~~2334~~ ~~2335~~ ~~2336~~ ~~2337~~ ~~2338~~ ~~2339~~ ~~2340~~ ~~2341~~ ~~2342~~ ~~2343~~ ~~2344~~ ~~2345~~ ~~2346~~ ~~2347~~ ~~2348~~ ~~2349~~ ~~2350~~ ~~2351~~ ~~2352~~ ~~2353~~ ~~2354~~ ~~2355~~ ~~2356~~ ~~2357~~ ~~2358~~ ~~2359~~ ~~2360~~ ~~2361~~ ~~2362~~ ~~2363~~ ~~2364~~ ~~2365~~ ~~2366~~ ~~2367~~ ~~2368~~ ~~2369~~ ~~2370~~ ~~2371~~ ~~2372~~ ~~2373~~ ~~2374~~ ~~2375~~ ~~2376~~ ~~2377~~ ~~2378~~ ~~2379~~ ~~2380~~ ~~2381~~ ~~2382~~ ~~2383~~ ~~2384~~ ~~2385~~ ~~2386~~ ~~2387~~ ~~2388~~ ~~2389~~ ~~2390~~ ~~2391~~ ~~2392~~ ~~2393~~ ~~2394~~ ~~2395~~ ~~2396~~ ~~2397~~ ~~2398~~ ~~2399~~ ~~2400~~ ~~2401~~ ~~2402~~ ~~2403~~ ~~2404~~ ~~2405~~ ~~2406~~ ~~2407~~ ~~2408~~ ~~2409~~ ~~2410~~ ~~2411~~ ~~2412~~ ~~2413~~ ~~2414~~ ~~2415~~ ~~2416~~ ~~2417~~ ~~2418~~ ~~2419~~ ~~2420~~

Взглянем на печётную ² как на необходимую, чтобы

$$X + 2k+1 \equiv 0 \pmod{2^{20}-2k-1} \Rightarrow X + 2020 \equiv 0 \pmod{2020-2k-1} \quad \text{IMO obligatory}$$

Не всегда. ¹⁵ Промысловый набор

2'4'2'3'3'5'3'3' , cylindric 8' pent.

6, 4, 4, 5, 7, 4, 4, 6, 6, 7, 9, 9, 9, 4, 5, 7, 7, 7, 5, 7, 7, 4, 8, 8, 8, 10, 10, 10

А теперь набор:

3, 3, 3, 1, 4, 4, 6, 4. Буммы в кент:

6, 6, 9, 7, 9, 7, 6, 4, 7, 7, 9, 4, 4, 7, 7, 9, 4, 5, 5, 3, 5, 8, 10, 8, 10, 8, 10

Заметим, что набросы ~~важно~~ ^{мажор} а ~~сильней~~ ^{а сильней} - ~~сильней~~ ^{сильней} ~~и~~ ^и значит оттолкнуть их невозможно.

Алгебра многочленов от n^2 переменных $a, b, c \in \mathbb{N}$

$$10000a^2 + 100b^2 + c^2 = h^2$$

$$100a^2 + 100b^2 + c^2 = n^2, \text{ где } n = 100a + k$$

$$(100a)^2 + 100b^2 + c^2 = (100a)^2 + 200ak + k^2$$

$$100b^2 + c^2 = 200ak + k^2$$

Заметим, что $C \stackrel{100}{=} k^2$ и $C < 10 \Rightarrow k \geq C$, т.к. среди чисел $1-10$ нет квадратов. Остатков по мод. 100,

$$k^2 \geq c^2 \Rightarrow 100b^2 \geq 200ak$$

$$b \leq 9$$

$$a \geq 4 \text{ (т.к., } 3^2 \text{ - простое)}$$

$$8100 \geq 800k \Rightarrow k \leq 11 \Rightarrow k \leq 10 \Rightarrow k = c$$

$$c^2 + 200ca = c^2 + 100b^2$$

$$2ca = b^2$$

$$b^2 : 2 \Rightarrow b : 2$$

$$c \leq 9$$

$$b \leq 9$$

$$a \geq 4$$

$$\Rightarrow b^2 = 32 \Rightarrow b \geq 6$$

$$\Rightarrow b = 6, 8$$

$$\text{Если } b = 8$$

$$2ca = 64$$

$$c \geq 4$$

$$a \geq 4$$

$$\Rightarrow \begin{cases} c = 8 & a = 4 \\ c = 4 & a = 8 \end{cases}$$

$$168464 = 408^2$$

$$648416 = 804^2$$

$$\text{Если } b = 6$$

$$2ca = 36$$

$$ca = 18$$

$$c \geq 4$$

$$a \geq 4$$

тогда да одно из

ни $\neq < 5$, иначе

$$ca \geq 25$$

Значит одно из $ca \geq 4$, но < 5 значит $ca = 4$,
значит другое $= 4, 5$, но такого не бывает.

$$\text{Ответ: } 168464$$

$$648416$$