

Многопрофильная
инженерная олимпиада
«Звезда»

шифр 34-07-77

Задание	1	2	3	4	5	6	7	8	Всего
Баллы	0	5	13	4	10	10	—	—	42

Вариант 2

№3

Рассмотрим последовательные эти числа:

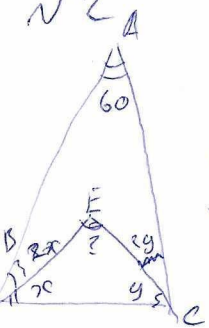
4; 11; 8; 14; 20; 8; 14; 20; 8; 14; 20

8; 14; 20. повторяются

$2024 - 2 = 2022$ повторяется эта тройка чисел
 $2022 : 3 = 7$ поэтому ответ 20

Ответ: 20.

№2



$$180 = 60 + 3x + 3y$$

$$\angle B = 3x$$

$$\angle C = 3y$$

$$\frac{3x + 3y}{3} = \frac{120}{3}$$

$$x + y = 40$$

$$180 = x + y + \angle BEC$$

$$180 = 40 + \angle BEC$$

$$\angle BEC = 140^\circ$$

Ответ: $\angle BEC = 140^\circ$

№5

$$1050 \frac{\mu}{\text{мин}} = 1,05 \frac{\text{м}^3}{\text{мин}}$$

$$1 \mu = 0,001 \text{ м}^3$$

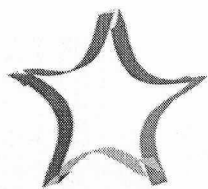
$$V_{\text{куба}} = 2 \text{ м}^3 = 8 \text{ м}^3 (2^3 = 8)$$

$$V_{\text{ящика}} = 45 \cdot 80 \cdot 180 = 648000 \text{ см}^3 = 0,648 \text{ м}^3$$

$$8 \text{ м}^3 - 0,648 \text{ м}^3 = 7,352 \text{ м}^3$$

$$7,352 \text{ м}^3 : 1,05 \frac{\text{м}^3}{\text{мин}} = 7,001 \text{ мин} \approx 7 \text{ мин}$$

Ответ: 7 мин.



Многопрофильная
инженерная олимпиада
«Звезда»

шифр 34-07-17

Задание	1	2	3	4	5	6	7	8	Всего
Баллы									

Вариант 2

№2

Для начала вычислим S всех стен. Для этого надо перевести
все в м. длина = $10 \cdot 1,8 = 18$ м; ширина = $15 \cdot 0,7 = 10,5$ м; $10 \cdot 50 = 5$ м = высота.
 $(18 \cdot 10,5) \cdot 2 + (18 \cdot 5) \cdot 2 = 518 \text{ м}^2$. Также найдём S окна = 3 м^2 . $5 \text{ м}^2 = 1$ кв. усе-
влю $\Rightarrow$ на все стены пришлось бы 103,6 литров краски, но у нас
израсходовано 51 л, а значит 52,6 литров использован бы на окна.
 $52,6 : 5 = 10,52$ мт.

Но кол-во окон должно быть целым, поэтому $10,52 \text{ мт} \approx 10 \text{ мт}$
Ответ: 10 мт.

№1

Для начала оставим числа с цифрами 9, 19, 29, 39, 49, 59, 69, 79, 89, 99, 109, 119, 129, 139, 149, 159, 169, 179, 189, 199, 209, 219, 229, 239, 249, 259, 269, 279, 289, 299, 309, 319, 329, 339, 349, 359, 369, 379, 389, 399, 409, 419, 429, 439, 449, 459, 469, 479, 489, 499, 509, 519, 529, 539, 549, 559, 569, 579, 589, 599, 609, 619, 629, 639, 649, 659, 669, 679, 689, 699, 709, 719, 729, 739, 749, 759, 769, 779, 789, 799, 809, 819, 829, 839, 849, 859, 869, 879, 889, 899, 909, 919, 929, 939, 949, 959, 969, 979, 989, 999, 1009, 1019, 1029, 1039, 1049, 1059, 1069, 1079, 1089, 1099, 1109, 1119, 1129, 1139, 1149, 1159, 1169, 1179, 1189, 1199, 1209, 1219, 1229, 1239, 1249, 1259, 1269, 1279, 1289, 1299, 1309, 1319, 1329, 1339, 1349, 1359, 1369, 1379, 1389, 1399, 1409, 1419, 1429, 1439, 1449, 1459, 1469, 1479, 1489, 1499, 1509, 1519, 1529, 1539, 1549, 1559, 1569, 1579, 1589, 1599, 1609, 1619, 1629, 1639, 1649, 1659, 1669, 1679, 1689, 1699, 1709, 1719, 1729, 1739, 1749, 1759, 1769, 1779, 1789, 1799, 1809, 1819, 1829, 1839, 1849, 1859, 1869, 1879, 1889, 1899, 1909, 1919, 1929, 1939, 1949, 1959, 1969, 1979, 1989, 1999, 2009, 2019, 2029, 2039, 2049, 2059, 2069, 2079, 2089, 2099, 2109, 2119, 2129, 2139, 2149, 2159, 2169, 2179, 2189, 2199, 2209, 2219, 2229, 2239, 2249, 2259, 2269, 2279, 2289, 2299, 2309, 2319, 2329, 2339, 2349, 2359, 2369, 2379, 2389, 2399, 2409, 2419, 2429, 2439, 2449, 2459, 2469, 2479, 2489, 2499, 2509, 2519, 2529, 2539, 2549, 2559, 2569, 2579, 2589, 2599, 2609, 2619, 2629, 2639, 2649, 2659, 2669, 2679, 2689, 2699, 2709, 2719, 2729, 2739, 2749, 2759, 2769, 2779, 2789, 2799, 2809, 2819, 2829, 2839, 2849, 2859, 2869, 2879, 2889, 2899, 2909, 2919, 2929, 2939, 2949, 2959, 2969, 2979, 2989, 2999, 3009, 3019, 3029, 3039, 3049, 3059, 3069, 3079, 3089, 3099, 3109, 3119, 3129, 3139, 3149, 3159, 3169, 3179, 3189, 3199, 3209, 3219, 3229, 3239, 3249, 3259, 3269, 3279, 3289, 3299, 3309, 3319, 3329, 3339, 3349, 3359, 3369, 3379, 3389, 3399, 3409, 3419, 3429, 3439, 3449, 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