178/ M a set of conse even ints, is ) in set M? 🡪 E

1. -6 in set; 2) -2 in set

184/ 40R + 2\*1.5R = 43R = ? 1) 2\*1.5 = 30

191/ Is zw positive? 🡪 E. 1) z + w3 = 20; 2) z pos

192/ (\*) 1 cm2 by x2 m2 1) Area 12/48 = ¼ m2 by area 48/48 = 1 cm2 🡪 x2 = ¼ 🡪 x = ½

1. Length 15/30 = ½ m by length 30/30 = 1 cm 🡪 x = ½

198/ Chú ý “this year” vs “last year”

202/ 2) Khai triển 4x + 4-x = 23. ***Thu gọn 2(2x-x***) 🡪 ***Đảo vế*** 4x + 4-x = (2x + 2-x)2 – 2

But VT = 23 🡪 ***Bỏ căn***: 2x + 2-x = 5

206/ (\*\*) ***If k and l are lines in the xy plane, slope of k < slop of l ? 🡪 C***

1. ***X intercept of k is pos, x intercept of l is neg (pos upward, neg downward)***
2. ***Lines k and l intersect on the pos y axis***

212/ (\*\*) If x pos int, x = ? 🡪 D

1. x2 = căn x 🡪 ***x(x-1)(x2 + x + 1) = 0 🡪 x=1 as x pos int so x!=0, VP no pos int solution***
2. 2) n/x = n & n != 0

215/ (\*\*) 2R + 2S = D 🡪 D

1. 1/R = 1/S – 3 🡪 S = R – 3RS 🡪 S = R/(1 + 3R) but 2R + 2S = 1 🡪 6R2 + R – 1 = 0 🡪 (3R – 1)(2R + 1) = 0 🡪 R = -1/2 or 1/3 🡪 R = 1/3
2. 1/R = ½ \* 1/S = 1/2S but 2R + 2S = 1 🡪 R = 1/3

216/ x, y ints, x = ? 🡪 C. 1) xy = 1; 2) x != -1

217/ ***C1 & c2 equidistant from line L. Area ABC1 < area DEC2? 🡪 D***

1. ***Radius Circle 1 < Radius Circle 2***
2. ***Length of chord AB < Length of chord DE***

220/ ***p, s, t pos, |ps – pt| > p(s – t)?*** 🡪 2) ***s < t***

222/ (\*) BC = x, z = căn (xy). X= ? 🡪 C

1. CD = x ; 2) z = 5 căn 2 🡪 y = 2x 🡪 z = x căn 2 = 5 căn 2 🡪 x = 5

223/ (\*) ***int n prime ? 🡪 1) 24 <= n <= 2 🡪 can determine n not prime***

225/ (\*\*) $0.03n + $0.05\*1.5n = $0.105n 🡪 Sum: ***(1 + r/100)\*$1.105n = $44.1*** 🡪 D

1. r = 5; 2) n = 400

226/ ***If m int > 1, m even int? 🡪 D***

1. ***32 a factor of m*** 🡪 having 2 makes sure 32 even
2. ***m a factor of 32*** 🡪 2, 4, 8, 16, 32

229/ (\*\*) ***4(R1 + R2 + R3 + R4 + R5)*** = 4\*550 = 2,200 🡪 Avg = 2,200 / 20 = 110

***5(C1 + C2 + C3 + C3 + C4)*** = 5\*440 = 2,200 🡪 Avg = 2,200 / 20 = 110

232/ (\*\*) Is xm < ym ? 🡪 C. 1) x > y; 2) m < 0

234/ (\*\*) Prob exactly 5 errors? 🡪 C

1. Prob for >= 5 errors; 2) Prob for <= 5 errors

***P(E or F) = P(E) + P(F) – P(E and F)*** <-> 1 = 0.27 + 0.85 – P(E and F)

* P(E and F) = 0.12 exactly 5 errors

235/ ***If p pos int, 2p + 1 prime? 🡪 C: p must be prime & even***

1. ***p prime 🡪 p=2 prime but p=3 not prime***
2. ***p even 🡪 p=2 prime; p=6 not prime***

236/ (\*\*) point (r, s) lies on a circle with center at origin. r2 + s2 = ? 🡪 D

1. Radius circle = 2; 2) point ( can 2, - căn 2) on circle) 🡪 Calculate diagonal hcn

238/ (\*) 2\*2,400 = 4,800 C machines 🡪 B machines: 4\*600 = 2,400 cans

* Machine A: 4,800 – 2,400 = 2,400 cans 🡪 2,400/400 = 6 machines A
* Total 2 + 4 + 6 = 12 machines

240/ (\*) x pos int, căn x int? 🡪 1) căn (4x) int 🡪 2 căn x int 🡪 căn x must int bcuz x pos int

244/ (5\*9 +x) / 6 >= 10 🡪 x >= 15 🡪 C

1. Additional int at least 14 ; 2) additional int multiple of 5

246/ (\*\*) ***Lập bảng:*** 🡪 1) ***B = 0.5T 🡪 A = 0.5T*** but D = 0.1A + 0.6B 🡪 0.35T

* D/T = 0.35T/T = 0.35

247/ (\*) m & n pos ints, m + n divisible by 4 ? 🡪 C : = (4q + 2 + 4s + 2) divisible by 4

1. m & n divisible by 2 ; 2) m nor n divisible by 4

248/ (\*) Area of rectangular R? 🡪 C

1. Each diagonal R length = 5; 2) Perimeter of R = 14

249/ How many ints that r < n < s? 🡪 C

1. s – r = 5; 2) r & s are not ints

255/ Filled 1/2 by 10h30 and 5/6 by 11h10

257/ (\*\*) ***Product = LCM \* HCF***

259/ (\*) x2 + bx + 12 = 0 🡪 b = ? 🡪 D

1. ***x – 3 factor of*** x2 + bx + 12 ***🡪 x is a root*** ; 2) 4 is a root

260/ (\*) OP slope ½. PQ slope 2. Slope OQ = ?

* 2) Q(5, 4) 🡪 (4 – 0)/(5 – 0) = 4/5

262/ (\*) 1) ***10 = (x1 + xn)/2 🡪 x1 + xn = 20***. Given ***xn – x1 = 14*** 🡪 x1 = 3

1. x1 + xn = 20. xn = 17 🡪 x1 = 3

264/ (\*\*\*) x in K, -x in K. Each of x & y in K, xy in K. Is 12 in K? 🡪 C

1. 2 in K; 2) 3 in K

268/ (\*\*) ***if m > 1 & n < 0, then 0 < mn < 1, 🡪 mn not an int.***

* E: 1) nm is pos 🡪 m can take any value; 2) nm an int 🡪 n can take any value

270/ (\*\*) n least int of 3 diff ints > 1. N = ? 🡪 C: n = 3

1. Product of all = 90; 2) 1 int = 2 one of other two

271/ x2 > x? 🡪 x2 > 1

272/ (\*) Total x + 10 books & x + 10 a multiple of 12

* 1) x < 96; x = 10, 20, …. 90 🡪 x + 10 = 20, … ***60***, …. 100. Bcuz x + 10 a multiple of 12 🡪 x + 10 = 60 🡪 x = 50

274/ (\*\*) Total = P + I – Both + Nei 🡪 30 = 21 + 15 – Both + Nei 🡪 Nei = B – 6

1. Nei = 12 – 6 = 6
2. ***24 of 30 businesses reported a net profit or invested or both:***

***P + I – Both = 24*** 🡪 Nei = 6

276/ If x + y + z > 0, is z > 1? 🡪 2) x + y + 1 < 0

279/ xy = -6. xy(x + y) = ? 🡪 2) xy2 = 18 🡪 Tính đc y, then x

282/ (\*) m pos int, m3 has how many digits ? 🡪 E: m = 100 or 300

1. m has 3 digits; 2) m2 has 5 digits

284/ (\*\*) r + 0.2r(y – 4) = 2.4r 🡪 y = 11

286/ (\*\*\*) sn = 1/n – 1/(n + 1) > 9/10? 🡪 1) k > 10

Đề: 1 – 1/(k + 1) > 9/10 🡪 k > 9

288/ (\*\*) C: 60% \* 75 = 45 = 0.9x 🡪 x = 50

290/ (\*\*) line k & l interest at point 91,1(. Is y int of k > y int of l?

1. slope of k M slop of l

line k: y – 1 = m1(x – 1) = m1x + (1 – m1)

line l: y = m2x + (1 – m2) 🡪 Determine if (1 – m1) > (1 – m2) or m1 < m2)

291/ (\*\*) Triangle angles a, b, c < 90 degrees? 🡪 a, b, c diameters

🡪 a2 + b2 = 24/pi + 32/pi > 48/pi = c2  🡪 acute triangle

292/ (\*) Total 45 books, < ½ book ppb in Spanish? 🡪 2) 15 of total are in Spanish

293/ (\*\*) S + B) = 32; F + B = 27. **(S + F)** + **B** = 49 (#)

* (S + B) + (F + B) = 34 + 27 🡪 **(S + F)** + **2B** = 61 (##) 🡪 B = 12

294/ (\*) w, x, y, z. rang in S > 2? 🡪 1) w – z > 2

296/ (\*\*) ***a, b, c conse ints & 0 < a < b < c. product abc multiple of 8?***

* ***1) product ac is even (2 odds, 1 even or 2 evens, 1 odd makes multiple of 8)***

297/ (\*) ints 6 < M < N. N = ? 🡪 C

1. GCD = 6; 2) LCD = 36 🡪 N = 18, M = 12

298/ (\*) 250 miles after 2h 🡪 A

1. ***At the time passed,*** P avg speed 70 m/h
2. Q avg 55m/h ***for the entire trip***

299/ (\*\*) y = x2 – 4x. Point (a,b) in shaded region if b < 0?

b < 0 🡪 point under x axis. 2) a2 – 4a < b 🡪 point above graph line y

300/ (\*) a, b pos int. căn 3 (ab) int?

* 2) b = căn a 🡪 căn 3 (b3) = b is int