

stress test

1. $18a^3b^3 \div 3a^2b \times 2b$ ¼ ½ ¾ 1 1½ 2 2½ 3 3½ 4 4½ 5 5½ 6 6½ 7 7½ 8 8½ 9 9½ 10 10½ 11 11½ 12 12½ 13 13½ 14 14½ 15 15½ 16 16½ 17 17½ 18 18½ 19 19½ 20 20½ 21 21½ 22 22½ 23 23½ 24 24½ 25 25½ 26 26½ 27 27½ 28 28½ 29 29½ 30 30½ 31 31½ 32 32½ 33 33½ 34 34½ 35 35½ 36 36½ 37 37½ 38 38½ 39 39½ 40 40½ 41 41½ 42 42½ 43 43½ 44 44½ 45 45½ 46 46½ 47 47½ 48 48½ 49 49½ 50 50½ 51 51½ 52 52½ 53 53½ 54 54½ 55 55½ 56 56½ 57 57½ 58 58½ 59 59½ 60 60½ 61 61½ 62 62½ 63 63½ 64 64½ 65 65½ 66 66½ 67 67½ 68 68½ 69 69½ 70 70½ 71 71½ 72 72½ 73 73½ 74 74½ 75 75½ 76 76½ 77 77½ 78 78½ 79 79½ 80 80½ 81 81½ 82 82½ 83 83½ 84 84½ 85 85½ 86 86½ 87 87½ 88 88½ 89 89½ 90 90½ 91 91½ 92 92½ 93 93½ 94 94½ 95 95½ 96 96½ 97 97½ 98 98½ 99 99½ 100 100½ 101 101½ 102 102½ 103 103½ 104 104½ 105 105½ 106 106½ 107 107½ 108 108½ 109 109½ 110 110½ 111 111½ 112 112½ 113 113½ 114 114½ 115 115½ 116 116½ 117 117½ 118 118½ 119 119½ 120 120½ 121 121½ 122 122½ 123 123½ 124 124½ 125 125½ 126 126½ 127 127½ 128 128½ 129 129½ 130 130½ 131 131½ 132 132½ 133 133½ 134 134½ 135 135½ 136 136½ 137 137½ 138 138½ 139 139½ 140 140½ 141 141½ 142 142½ 143 143½ 144 144½ 145 145½ 146 146½ 147 147½ 148 148½ 149 149½ 150 150½ 151 151½ 152 152½ 153 153½ 154 154½ 155 155½ 156 156½ 157 157½ 158 158½ 159 159½ 160 160½ 161 161½ 162 162½ 163 163½ 164 164½ 165 165½ 166 166½ 167 167½ 168 168½ 169 169½ 170 170½ 171 171½ 172 172½ 173 173½ 174 174½ 175 175½ 176 176½ 177 177½ 178 178½ 179 179½ 180 180½ 181 181½ 182 182½ 183 183½ 184 184½ 185 185½ 186 186½ 187 187½ 188 188½ 189 189½ 190 190½ 191 191½ 192 192½ 193 193½ 194 194½ 195 195½ 196 196½ 197 197½ 198 198½ 199 199½ 200 200½ 201 201½ 202 202½ 203 203½ 204 204½ 205 205½ 206 206½ 207 207½ 208 208½ 209 209½ 210 210½ 211 211½ 212 212½ 213 213½ 214 214½ 215 215½ 216 216½ 217 217½ 218 218½ 219 219½ 220 220½ 221 221½ 222 222½ 223 223½ 224 224½ 225 225½ 226 226½ 227 227½ 228 228½ 229 229½ 230 230½ 231 231½ 232 232½ 233 233½ 234 234½ 235 235½ 236 236½ 237 237½ 238 238½ 239 239½ 240 240½ 241 241½ 242 242½ 243 243½ 244 244½ 245 245½ 246 246½ 247 247½ 248 248½ 249 249½ 250 250½ 251 251½ 252 252½ 253 253½ 254 254½ 255 255½ 256 256½ 257 257½ 258 258½ 259 259½ 260 260½ 261 261½ 262 262½ 263 263½ 264 264½ 265 265½ 266 266½ 267 267½ 268 268½ 269 269½ 270 270½ 271 271½ 272 272½ 273 273½ 274 274½ 275 275½ 276 276½ 277 277½ 278 278½ 279 279½ 280 280½ 281 281½ 282 282½ 283 283½ 284 284½ 285 285½ 286 286½ 287 287½ 288 288½ 289 289½ 290 290½ 291 291½ 292 292½ 293 293½ 294 294½ 295 295½ 296 296½ 297 297½ 298 298½ 299 299½ 300 300½ 301 301½ 302 302½ 303 303½ 304 304½ 305 305½ 306 306½ 307 307½ 308 308½ 309 309½ 310 310½ 311 311½ 312 312½ 313 313½ 314 314½ 315 315½ 316 316½ 317 317½ 318 318½ 319 319½ 320 320½ 321 321½ 322 322½ 323 323½ 324 324½ 325 325½ 326 326½ 327 327½ 328 328½ 329 329½ 330 330½ 331 331½ 332 332½ 333 333½ 334 334½ 335 335½ 336 336½ 337 337½ 338 338½ 339 339½ 340 340½ 341 341½ 342 342½ 343 343½ 344 344½ 345 345½ 346 346½ 347 347½ 348 348½ 349 349½ 350 350½ 351 351½ 352 352½ 353 353½ 354 354½ 355 355½ 356 356½ 357 357½ 358 358½ 359 359½ 360 360½ 361 361½ 362 362½ 363 363½ 364 364½ 365 365½ 366 366½ 367 367½ 368 368½ 369 369½ 370 370½ 371 371½ 372 372½ 373 373½ 374 374½ 375 375½ 376 376½ 377 377½ 378 378½ 379 379½ 380 380½ 381 381½ 382 382½ 383 383½ 384 384½ 385 385½ 386 386½ 387 387½ 388 388½ 389 389½ 390 390½ 391 391½ 392 392½ 393 393½ 394 394½ 395 395½ 396 396½ 397 397½ 398 398½ 399 399½ 400 400½ 401 401½ 402 402½ 403 403½ 404 404½ 405 405½ 406 406½ 407 407½ 408 408½ 409 409½ 410 410½ 411 411½ 412 412½ 413 413½ 414 414½ 415 415½ 416 416½ 417 417½ 418 418½ 419 419½ 420 420½ 421 421½ 422 422½ 423 423½ 424 424½ 425 425½ 426 426½ 427 427½ 428 428½ 429 429½ 430 430½ 431 431½ 432 432½ 433 433½ 434 434½ 435 435½ 436 436½ 437 437½ 438 438½ 439 439½ 440 440½ 441 441½ 442 442½ 443 443½ 444 444½ 445 445½ 446 446½ 447 447½ 448 448½ 449 449½ 450 450½ 451 451½ 452 452½ 453 453½ 454 454½ 455 455½ 456 456½ 457 457½ 458 458½ 459 459½ 460 460½ 461 461½ 462 462½ 463 463½ 464 464½ 465 465½ 466 466½ 467 467½ 468 468½ 469 469½ 470 470½ 471 471½ 472 472½ 473 473½ 474 474½ 475 475½

- ① $3ab$ ② $6ab^2$ ③ $12ab^2$
④ $3ab^3$ ⑤ $12ab^3$

2. $\ddot{e} \propto \dot{\iota} \propto \dot{\iota}^3 \propto \dot{e}^2 \propto ?$

- $$\begin{array}{ll} \textcircled{1} & a \div (b \times c) = \frac{ab}{c} \\ \textcircled{2} & a \times (b \div c) = \frac{ab}{c} \\ \textcircled{3} & (a \div b) \div c = \frac{ac}{b} \\ \textcircled{4} & (a \div b) \times c = \frac{bc}{a} \\ \textcircled{5} & a \div (b \div c) = \frac{ab}{c} \end{array}$$

3. $2y^2 - \{-y(y-4) + 4\} \in \mathbb{F}_4[x] \subseteq \mathbb{F}_4[x, y]$ is irreducible in $\mathbb{F}_4[x, y]$ because $2y^2 - \{-y(y-4) + 4\} \in \mathbb{F}_4[x]$ is irreducible in $\mathbb{F}_4[x]$ and $\mathbb{F}_4[x]$ is a unique factorization domain.

4. $a = \frac{1}{2}, b = -\frac{1}{2}$

$$a - [3a - \{a - 2b - (7a - 4b)\}]$$

5. $2^7 \times 5^4$ 이 ' n 자리' 이 이 0 이 이 $\frac{1}{4}$ e , n 이 e 0 이 ?

- ① 3 ② 4 ③ 5 ④ 6 ⑤ 7

6. $\frac{2^{15} \times 15^{20}}{45^{10}}$ ì ëª ºì ì ì ,ê° ?

- ① 8 자리 ② 10 자리 ③ 11 자리
④ 12 자리 ⑤ 13 자리

7. $(a^2b - a^2) \div a - 2(ab^2 + 6b^2) \div b$ өлшемі $\frac{a^2b - a^2}{a} - \frac{2(ab^2 + 6b^2)}{b}$ түрінде жазып, $a = -\frac{1}{2}$, $b = \frac{1}{3}$ мәнін қоя отырып, өрнектің сандық мәнін табыңыз.

8. $\frac{1}{4}a(2a-3)$

- $$\begin{array}{ll} \textcircled{1} & -\frac{1}{4}a^2 - \frac{3}{4}a \\ \textcircled{2} & -\frac{1}{4}a^2 - \frac{1}{4}a \\ \textcircled{3} & \frac{1}{2}a^2 - \frac{3}{4}a \\ \textcircled{4} & \frac{1}{2}a^2 + \frac{3}{4}a \\ \textcircled{5} & \frac{1}{2}a^2 - \frac{3}{4} \end{array}$$

9. Find a, b, c, d if $\neg(2x - 1)(x^2 - 5x + 3) = ax^3 + bx^2 + cx + d$. $\frac{1}{4}$?

- ① -3 ② -1 ③ 0 ④ 1 ⑤ 3

10. $\frac{1}{x^2} = x^{-2}$ $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$

$\left(-3x^2y^2\right)^3 = -27x^{12}y^6$

11. $\ddot{e} \propto \dot{\iota} \propto \dot{\iota}^3 \propto \dot{e}^2 \propto ?$

$$\textcircled{1} \quad (-1)^2 \times (-1)^4 = (-1)^8$$

② $3^2 \times 3^3 = 3^6$

③ $(-2) \times (-2)^3 = (-2)^3$

④ $4^3 \times 4^2 = 4^5$

⑤ $(-3)^2 \times (-3) = 3^2$

12. $a^{12} \div a^2 \div a^4$ $\hat{e}^{31/4}$ $\hat{e}^3$ $\hat{e}^{20}$ $\hat{e}^{31/4}$ $\hat{e}^{\circ}$ $\hat{e}^2$?

$$\textcircled{1} \quad a^{12} \div (a^8 \div a^4) \qquad \textcircled{2} \quad (a^4)^3 \div a^2 \div (a^2)^2$$

$$\textcircled{3} \quad \frac{a^{12}}{a^8} \div a^2$$

$$\textcircled{4} \quad a^{12} \div (a^2 \div a^4)$$

⑤ $(a^3)^4 \div a^5 \div a^2$

13. ì ì ë ìì ´ê° ê° ì ¥ ê° ë ´í ì ì
êµ¬í ì ¬ë ¼.

$$x + 4y - \{2x - (3y - \square + y) + y\} = 5x - (3x + 2y)$$

14. $(4xy - x^3y - 3xy^2) \div \frac{1}{2}xy = \frac{8}{x}, -\frac{6}{x^2}, -\frac{6}{x}$

15. $5x - 2y = -4x + y - 3 \Rightarrow 9x - 3y = -3 \Rightarrow 3x - y = -1$
 $\Rightarrow y = 3x + 1$

16. $4x + 3y = 2$ à $\frac{1}{4}$ è , $5(x - 3y) - 2(4x - 3y)$ è $\frac{1}{4}$ x
à è ' í à à $\frac{1}{4}$ è ; è í è ' í è $\frac{1}{4}$.

17. $x = 2 \frac{1}{4}$, $(x^x)^{(x^x)} = 2^{\square}$ 'ë α. ì ì
 ì ë§ ì ì ë¥¼ êµí ì ì ì¼.

18. $\frac{2^{15} \times 15^{30}}{45^{15}}$ ì a 자리 ì ì 'ë ㅁ. ì 'ë , $a^2 + a + 1$ ì
ê° ì êµ-í ì -ë ¼.

19. $A = -x - 2y + 4$, $B = 4x + y - 3$. $A + B$?

- ① $-x + 2y - 7$ ② $-x + 3y - 3$
 ③ $5x - 2y + 4$ ④ $5x + 3y - 7$
 ⑤ $5x + 3y + 7$

20. $A = 2x - 5y + 3$, $B = 6x - y + 4$, $A - B$?

- ① $-6x + 4y - 2$ ② $-4x - 4y - 1$
 ③ $2x + 9y - 2$ ④ $8x - 6y + 7$
 ⑤ $10x - 11y + 10$

21. $(3x - 5y) : 7 = (x - y) : 2$

22. $1\text{MB} = 2^{10} \text{KB}$, $1\text{GB} = 1024\text{KB}$.
 $1\text{GB} = 1024 \times 1024 \text{KB} = 1048576 \text{KB}$.
 $1\text{GB} = 1024 \times 1024 \text{KB} = 1048576 \text{KB}$.
 $1\text{GB} = 1024 \times 1024 \text{KB} = 1048576 \text{KB}$.

23. $(-24xy^2) \div 12xy \times A = -8x^2y$, $-8x^2y^2 \div B \times x^2y^3 = 2x^3y$, $A \times B, A \div B$?

- ① $4x^2, -4xy^4$ ② $-\frac{x}{y^4}, -16x^3y^4$
 ③ $-16x^3y^4, -\frac{x}{y^4}$ ④ $16x^3y^4, \frac{x}{y^4}$
 ⑤ $-16x^3y^4, -xy^4$

24. $\left(\frac{a^3b^4}{a^4b^4}\right)^3 = \frac{b^3}{a^6}$, $\Delta = \frac{a^3b^4}{a^4b^4}$.

25. x, y $\Delta = (8xy^2 + 4xy^2) \div 2xy$, $x \Delta y = (12x^2y - 8x^2y) \div 4xy$.

- ① $\frac{6y+x}{6y+x}$ ② $\frac{6y-x}{6y-x}$ ③ $\frac{6y-x}{6y+x}$
 ④ $\frac{6y+x}{6y-x}$ ⑤ $\frac{3y-x}{3y+x}$