HugeMathBrain — Grade 7 Printable Quiz

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Grade 7

Problem 7.1 · 3 points — A machine doubles a two-digit number, adds 7, then swaps the digits of the result. It runs this routine twice and displays 53. What number went in first?

A) 14
B) 17
C) 32
D) 23
E) 28

Problem 7.2 · 3 points — What is the last digit of 2^2026 + 2^2027?



A) 6
B) 0
C) 2
D) 4
E) 8

Problem 7.3 · 4 points — A shirt's price is raised by 20%, and later the new price is reduced by 20%. Compared to the original price, the final price is:



A) 4% lower
B) the same
C) 4% higher
D) 10% lower
E) 2% lower

Problem 7.4 · 5 points — Write down any nine consecutive positive whole numbers, cross out one, and multiply the other eight. Which number is guaranteed to divide the product?



A) 288
B) 144
C) 720
D) 432
E) 1008

Problem 7.5 · 3 points — Seven bowls sit in a row and hold 44 marbles altogether. Each bowl has a positive whole number of marbles, and neighboring bowls hold different amounts. What is the greatest possible number of marbles in the least-filled bowl?



A) 5
B) 6
C) 7
D) 3
E) 4

Problem 7.6 · 3 points — Maya walks once around a triangular park, turning left at each corner to follow its sides. Her first turn is 30° larger than her second, and her third turn is 140°; how large is her second turn?



A) 125°
B) 110°
C) 5°
D) 95°
E) 80°

Problem 7.7 · 4 points — A convex polygon has exactly 20 diagonals. Two vertices joined by a diagonal are colored blue; how many diagonals have no blue endpoint?

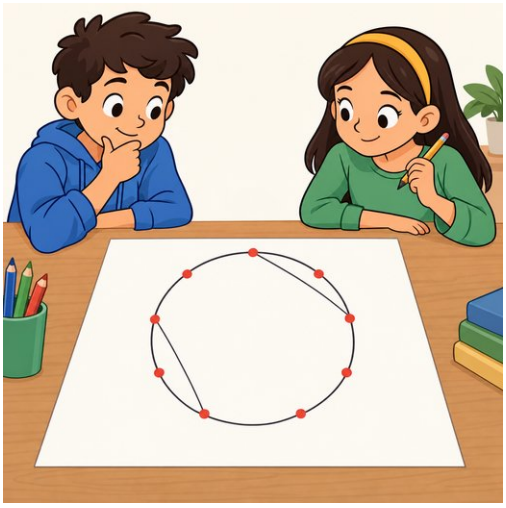
A) 11
B) 12
C) 15
D) 9
E) 10

Problem 7.8 · 4 points — Ala walks to school at 4 km/h and returns home by the same route at 6 km/h. What is her average speed for the whole round trip?



A) 5.2 km/h
B) 5 km/h
C) 4.6 km/h
D) 4.4 km/h
E) 4.8 km/h

Problem 7.9 · 5 points — Nine dots lie on a circle, and every pair is joined by a straight segment. If no three segments meet at the same point inside the circle, how many distinct crossing points are there?

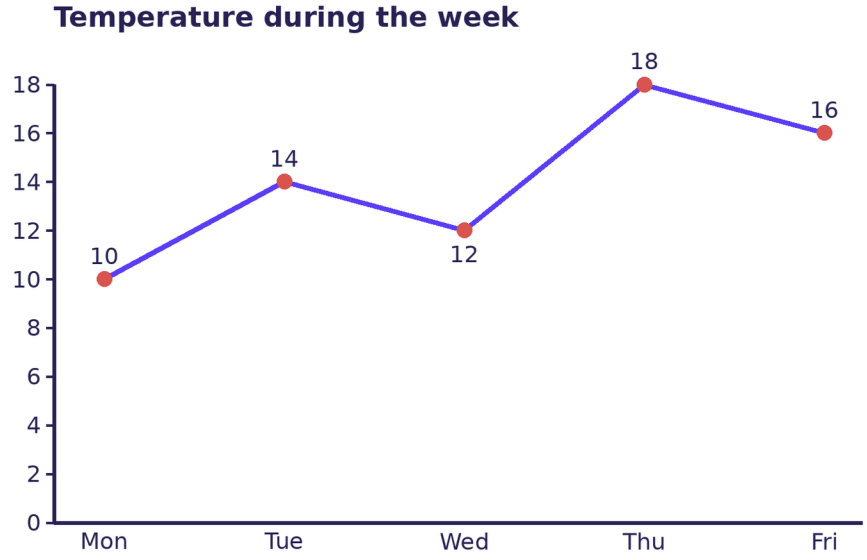


A) 252
B) 126
C) 630
D) 84
E) 378

Problem 7.10 · 4 points — One number in this chain has been smudged: 2, 5, 12, 29, __, 169, 408. What number was it?

A) 41
B) 63
C) 71
D) 70
E) 58

Problem 7.11 · 4 points — Erase one dot from Tuesday, Wednesday, or Thursday, then join its two neighbors with a straight line. Which dot makes the area beneath the graph shrink the most? Give its original temperature.



A) 12 degrees
B) 14 degrees
C) 18 degrees
D) 16 degrees
E) 10 degrees

Problem 7.12 · 4 points — Mila draws cards numbered 1 to 12, without looking. What is the fewest cards she must draw to be certain that two of their numbers differ by exactly 3?



A) 9
B) 6
C) 8
D) 5
E) 7

Answer key

7.1: B
7.2: C
7.3: A
7.4: B
7.5: A
7.6: D
7.7: A
7.8: E
7.9: B
7.10: D
7.11: C
7.12: E