DIVERGING MATHEMATICS

Am I Ready for Clock Algebra?

These questions are meant to help you gauge your readiness for Clock Algebra. Getting the correct answers (which are on the last page) is good, using a method that works in additional cases is better, but understanding *why* is the gold standard and one that only you can assess.

1. Factor completely into a product of primes: 120

2. Consider the numbers 9 and 15.
   (a) What is the LCM (Least Common Multiple)?
   (b) What is the GCF (Greatest Common Factor)?

3. Simplify: $6(2x + 7) - 2(4x - 1)$

4. What is $\frac{2}{5} - \frac{1}{6}$?

5. Consider the parabola $y = x^2 + 8x + 12$.
   (a) Factor the right hand side.
   (b) For which value(s) of x is $y = 0$?
   (c) What are the coordinates of the parabola's vertex?

6. Solve the system of equations using any method:

$$-3x + y = 15$$
$$x + 2y = 2$$

7. Nate was born on Saturday. What day of the week will it be when he is 1406 days old?

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August 23, 2024

Answers:

1. $2^3 \cdot 3 \cdot 5$
2. (a) 45 (b) 3
3. $4x + 44$
4. $7/30$
5. (a) $(x+6)(x+2)$ (b) $x = -2, -6$ (c) $(-4, -4)$
6. $(x, y) = (-4, 3)$
7. Friday. Note that there are 7 days in a week, which goes evenly into 1400.