

1. If $a - b$ is a multiple of 7, which of the following must also be a multiple of 7?

(A) ab

(B) $a + b$

(C) $\frac{a+b}{2}$

(D) $\frac{b-a}{2}$

(E) $b - a$

3. What is the 209th digit after the decimal point in the repeating decimal $0.\overline{76234}$?

F. 5

G. 4

H. 3

J. 2

K. 0

2. A watch loses x minutes every y hours. At this rate, how many hours will the watch lose in one week?

(A) $7xy$

(B) $\frac{2x}{5y}$

(C) $\frac{5y}{2x}$

(D) $\frac{14y}{5x}$

(E) $\frac{14x}{5y}$

4. A baseball team won 54 more games than it lost. If the team played a total of 154 games and there were no ties, how many games did the team win?

(A) 50

(B) 98

(C) 100

(D) 102

(E) 104

BELLWORK Hon Alg 2 WED DEC 21, 2016

1. If $a - b$ is a multiple of 7, which of the following must also be a multiple of 7?

- (A) ab
 (B) $a + b$
 (C) $\frac{a+b}{2}$
 (D) $\frac{b-a}{2}$
 (E) $b - a$

Since $a - b$ & $b - a$
 are opposites, if
 $a - b$ is a
 multiple of 7
 so is $b - a$.

3. What is the 209th digit after the decimal point in the repeating decimal $0.\overline{76234}$?

- F. 5
 G. 4
 H. 3
 J. 2
 K. 0

This repeats every 5 digits.
 The #4 will be the
 $5^{th}, 10^{th}, 15^{th}, 20^{th}, \dots, 210^{th}$
 digit

Therefore the 209th will
 be the digit in front of

4 $\rightarrow$ 3

2. A watch loses x minutes every y hours. At this rate, how many hours will the watch lose in one week?

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 (C) $\frac{5y}{2x}$
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 (E) $\frac{14x}{5y}$

final answer will be $\frac{hr}{wk}$

$$\frac{x \text{ min}}{y \text{ hrs}} \cdot \frac{24 \text{ hrs}}{1 \text{ day}} \cdot \frac{7 \text{ days}}{1 \text{ wk}} \cdot \frac{1 \text{ hr}}{60 \text{ min}}$$

$$= \frac{24 \cdot 7 \times \text{hr}}{60 \cdot 12 y \text{ wk}} = \frac{14x}{5y} \frac{\text{hr}}{\text{wk}}$$

4. A baseball team won 54 more games than it lost. If the team played a total of 154 games and there were no ties, how many games did the team win?

- (A) 50
 (B) 98
 (C) 100
 (D) 102
 (E) 104

$x = \# \text{ games won}$
 $y = \# \text{ games lost}$

$$\begin{aligned} x - y &= 54 \\ x + y &= 154 \end{aligned}$$

$$\frac{2x}{2} = \frac{208}{2}$$

$$x = 104$$

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