

SHSAT #1

Classwork

A #1 $\frac{4}{5} + \frac{1}{7} - \frac{1}{2}$

↓ ↓ ↓

$\frac{4(7)(2)}{5(7)(2)} + \frac{1(5)(2)}{7(5)(2)} - \frac{1(7)(5)}{2(7)(5)}$

$\frac{56}{70} + \frac{10}{70} - \frac{35}{70} = \frac{66-35}{70} = \boxed{\frac{31}{70}}$

D #2 $100 + 5^2 + 5^2 + 5^2$

$4(5^2) + (5^2) + (5^2) + (5^2) = 7(5^2)$

4 of these squares plus 3 more squares 7 squares total

B #3 $x=9$ $\frac{3(7+9)}{(15-9)} = \frac{3(16)}{(6)} = \frac{48}{6} = \boxed{8}$

D #4 Estimate: \$12.99 → \$13

Then 2.5 lbs @ \$13 = $13 + 13 + \textcircled{\frac{1}{2}}$

= \$32.50 (subtract 2.5¢)

C #5 $14 + (7 \times 5) = 14 + 35 = 49$

SHSAT #1

Classwork

E #6 $(16 - 9)^2 = (7)^2 = 49$

C #7 84 is even is a multiple of 2.

$8 + 4 = 12$ is a multiple of 3.

$84 / 4 = 21$ is a multiple of 4.

84 is divisible by 2 and 3 = 6.

$84 / 7 = 12$ is a multiple of 7.

A #8 X: $\frac{2}{3} > \frac{3}{5}$ since $\frac{2(5)}{3(5)} > \frac{3(3)}{5(3)}$

$\frac{10}{15} > \frac{9}{15}$ True

Y: $9.01 < \sqrt{99}$ since $\sqrt{99} \approx 9.9$ True
 $9.01 < 9.9$
 estimate...
 $\sqrt{100} = 10$

Z: $\sqrt{64} < 8.15$ True
 $8 < 8.15$

SHSAT #1
 Classwork

D #9 $\{2, 3, 5, 7, 11\}$
 1 is not prime.
 2 is the 1st prime
 "A prime # is divisible by 1 and itself."

B #10 Draw it: $w=7$
 $l=3.5$ $l=3.5$ $w=7$ $P = 2(7) + 2(3.5)$
 $= 14 + 7$
 $= 21$

D #11 $\frac{.6}{\frac{2}{3}} \times \frac{.6}{\frac{2}{3}} = \frac{4}{9}$
 $4.44444 = \overline{.4}$
 $9 \overline{) 4.000000000}$
 $\underline{36}$
 40
 $\underline{36}$
 $4 \dots$

B #12 LCM [14, 30]
 $14 = 2 \times 7$
 $30 = 2 \times 3 \times 5$
 LCM = $(2)(3)(5)(7)$
 $= 210$
 add 1170 to Factors.

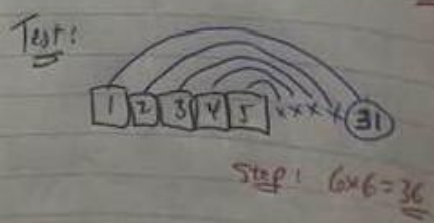
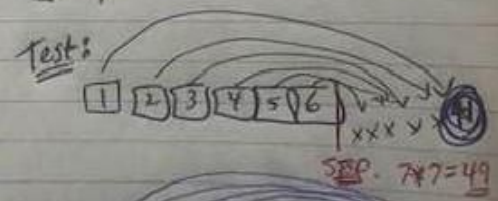
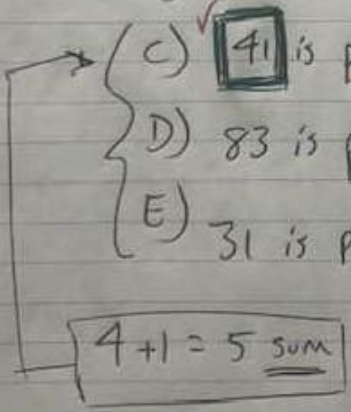
SHSAT #1

A) #13 $| -5 - 2 | + | 2 - 5 |$
 $| -7 | + | -3 | = 7 + 3 = 10$
 Classwork

E) #14 $| 2(5)^2 - (35 \div 7) | = | 50 - 5 | = 45$

C) #15 Work Backwards ...

- A) $32 = 16 \times 2$ is not prime
- B) $50 = 25 \times 2$ is not prime.
- C) 41 is prime
- D) 83 is prime
- E) 31 is prime



SHSAT #1

D

#16

$$3(5!) = 3(5 \times 4 \times 3 \times 2 \times 1)$$

$$= (3)(20)(6)$$

$$= (3)(120) = \boxed{360}$$

Classwork

D

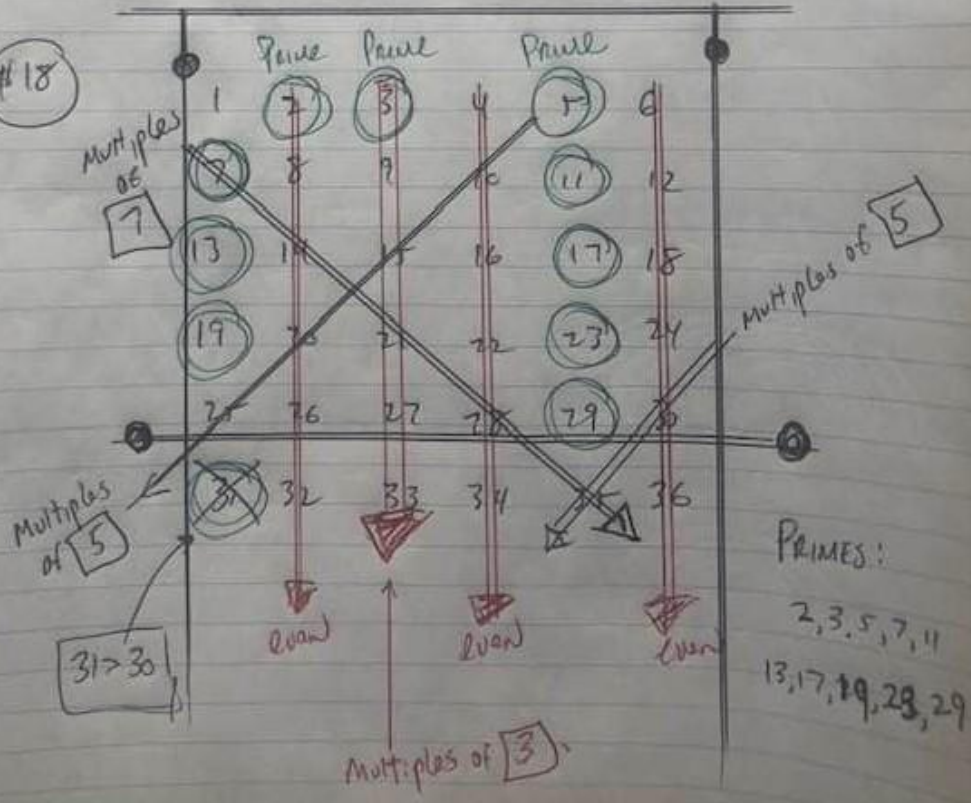
#17

(D)

$$.3 \times 1 = \boxed{0.3 < \frac{1}{3}}$$

E

#18



D

#19 Try Plug in! 3 consecutive #'s

$$\{37, 38, 39, 40, 41, 42, 43, \dots\}$$

$$\text{TRY: } 37 + 40 + 41 = \boxed{120} \quad \text{No.}$$

$$40 + 41 + 42 = \boxed{123} \quad \text{Yes! choice D.}$$

#20 Try Plug In: Let $x=3$ is ODD.

E

$$A) 3(3) + 5 = 9 + 5 = \boxed{14} \quad \text{EVEN}$$

$$B) 3(3) + 17 = 9 + 17 = \boxed{28} \quad \text{EVEN}$$

$$C) 4(3) + 2 = 12 + 2 = \boxed{14} \quad \text{EVEN}$$

$$D) 2[(3) + 6] = 2(9) = \boxed{18} \quad \text{EVEN}$$

$$\checkmark E) 3[(3) + 4] = 3(7) = \boxed{21} \quad \text{ODD}$$

B

#21 $(-)(-)(-)(-)(+)$

$$\underbrace{(-)(-)}_{\text{(pos)}} \underbrace{(-)(-)}_{\text{(pos)}} \underbrace{(+)}_{\text{(pos)}} = \text{Positive}$$

SHSAT #1

Classwork

SHSAT #1
 classwork

C #22 Sum of Digits = Multiple of 9.

$$6 + 5 + 9 + 8 = 11 + 9 + 8$$

$$= 20 + 8$$

$$= 28 \text{ is not a multiple of } 9.$$

There fore: $28 + n = 36$ ← (Next multiple of 9)

$$\begin{array}{r} 28 + n = 36 \\ - 28 \quad - 28 \\ \hline n = 8 \end{array}$$

D #23 Plug In: $M=2$ and $N=3$

A) $4 - 9 + 5 = 0$ EVEN

B) $4 + 3 + 1 = 8$ EVEN

C) $2(2 - 3) = -2$ EVEN

D) $4 - 9 = -5$ ODD

E) $4 + 2(9) = 22$ EVEN

SHSAT #1

Classwork

E #24

4: $\{4, 8, 12, 16, 20, 24, 28\} < 30$

3: $\{3, 6, 9, 12, 15, 18, 21, 24, 27\} < 30$

Only $\{12 \text{ and } 24\}$

GRID IN: SS

A.4 #25 $3\frac{1}{7} \div \frac{5}{7} = \frac{22}{7} \div \frac{5}{7} = \frac{22}{\cancel{7}} \times \frac{\cancel{7}}{5} = \frac{22}{5}$

1001 #26 $(10+1)(100-10+1)$
 $(11)(91) \rightarrow$

$$\begin{array}{r} 91 \\ \times 11 \\ \hline 91 \\ 910 \\ \hline 1001 \end{array}$$

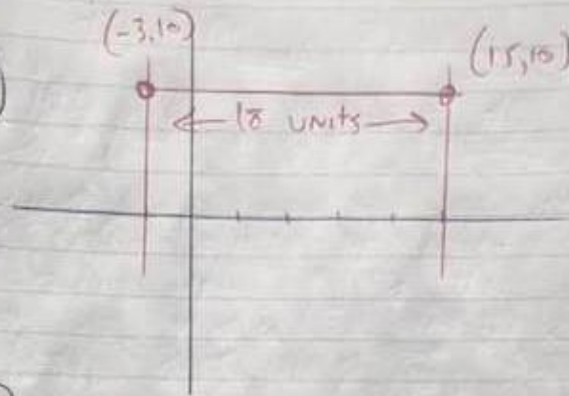
4 #27

$\begin{array}{c} \boxed{600} \\ \wedge \quad \wedge \\ 10 \quad 6 \\ \wedge \quad \wedge \\ \boxed{2} \quad \boxed{0} \quad \boxed{3} \quad \boxed{2} \end{array}$

← 4 PRIME NUMBERS

18

#28



3

#29

Consider Circle B:

$$100 = \{1, 2, 4, 5, 10, 20, 25, 50, 100\}$$

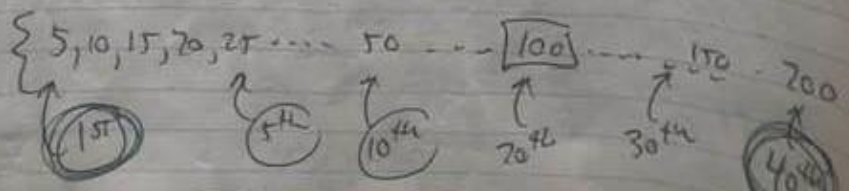
↑ ↑ ↑ ↑
PERFECT SQUARES (set A)

From $(A \cap B) = \{1, 4, 25, 100\}$

Composite
 $\begin{cases} 4 = 2 \times 2 \\ 25 = 5 \times 5 \\ 100 = 50 \times 2 \end{cases}$

195

#30



Then $40^{th} - 15^{th} = 200 - 5 = 195$