

SHSAT #8

B #1 $(3x+2x) + (5+3)$
 $\boxed{5x + 8}$

C #2 $x+2x+3x+4x-5x =$
 $10x - 5x = \boxed{5x}$

E #3 $13x^2 - 5x^2 + 1$
 $\boxed{8x^2 + 1}$

C #4 $a=5$ $a^3 + 2a^2 - 5a - 75$
 $125 + 70 - 25 - 75$
 $175 - 100 = \boxed{75}$

A #5 $M=9$ $V=5$ $2(81) - 3(25) = 162 - 75$
 $= \boxed{87}$

E #6 $3b+7$
 $4b+4$ ↓ add
 $8b+3$
 $15b+14$ Answer: \boxed{E}

B

$$\text{\#7} \quad \frac{16x-8}{2} = \frac{16x}{2} - \frac{8}{2} = \boxed{8x-4}$$

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B

$$\text{\#8} \quad (16-2x^2) - (9-14x^2)$$

$$16-2x^2-9+14x^2$$

$$\boxed{7+12x^2}$$

D

$$\text{\#9} \quad \begin{array}{r} 2x^2 + 3x - 7 \\ + 2x^2 + 17x - 5 \\ \hline 4x^2 + 20x - 12 \end{array}$$

D

$$\text{\#10} \quad \begin{array}{r} 7x - 14 = 14 - 7x \\ +14 \quad +14 \\ \hline 7x = 28 - 7x \\ +7x \quad +7x \\ \hline 14x = 28 \quad \rightarrow \quad \boxed{x=2} \end{array}$$

C

$$\text{\#11} \quad \text{Fanny} + \text{Fred} = (4f) + (6f+19) = \boxed{10f+19}$$

D

$$\text{\#12} \quad (4x^2-1) - (x^2-16)$$

$$(4x^2-1-x^2+16) = \boxed{3x^2+15}$$

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B #13 $(7x^2+8)-(4+2x^2)$
 $7x^2+8-4-2x^2 = 5x^2+4$

C #14 4 oranges = \$1.00 3 bananas = \$1.00
 12 oranges = \$3.00 12 bananas = \$4.00
 $3a + 4b$

B #15 $2x^2+3x-7$
 $-3x^2-17x+5$
 $-14x-2$

B #16 $6x^2+3x-7$
 $-3x^2-2x+9$
 $3x^2+x+2$

B #17 $\sqrt{36}\sqrt{9} + \sqrt{16} = (6)(3) + (4)$
 $= 18+4 = 22$

A #18 $5x^2-3$
 $+2x^2+5$
 $7x^2+2$

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#25 $2k - 5 = 7k - 30$
 $-5 = 5k - 30$
 $25 = 5k \rightarrow 5 = k$

#26

BF	CBS	SP	EWP	total
$7x$	$5x$	$4x$	$2x$	$= 18x$
420	300	240	120	$= 1080$

\uparrow
SCOTCH PINE

#27 Mrs Paws: $(\$25)(40) = (150)(20)$
 $= (300)(10) = \$3000$

#28 $9a^2 - 4b^2 = 9(4) - 4(9) = 0$
 $a=2 \quad b=3$

#29 $\sqrt{27} + \sqrt{12} = \sqrt{9\sqrt{3}} + \sqrt{4\sqrt{3}}$
 $= 3\sqrt{3} + 2\sqrt{3} = 5\sqrt{3}$
 $a=5$

#30 $\left(\frac{1}{3}\right) + \frac{1}{4}\left(\frac{2}{3}\right) + R = 1$ (all total 100%)
 $\frac{4}{12} + \frac{2}{12} + R = \frac{12}{12}$
 $R = \frac{6}{12} = \frac{1}{2}$