Directions: Answer the following question(s).

1 **Select *all* expressions equivalent to –90x + 60.**

A. –30(–3x + 2)

B. 30(–3x + 2)

C. 10(–9x + 6)

D. –10(9x – 6)

E. –10(9x + 6)

2 **Select the expression equivalent to (–18x – 12) – (–13x + 17).**

A. 31x – 29

B. –5x – 29

C. –5x + 5

D. 5x + 5

3 **Select the expression that is equal to (9x + 3) – (5x – 7).**

A. 14x – 4

B. 14x + 10

C. 4x – 4

D. 4x + 10

4 **Which of the following is equivalent to 3(y – 1 + 2y)?**

A. 3y – 9

B. 6y – 3

C. 9y – 3

D. 3y – 3

5 **Which expression is equivalent to 5(x – 0.8)?**

A. 5x – 0.8

B. 5x – 0.4

C. 5x – 4

D. –5x – 0.40

6 **Select the expression equivalent to (8.4x + 2.9) + (–3.7x + 5).**

A. –4.7x + 7.9

B. 4.7x + 7.9

C. –12.1x + 7.9

D. 12.1x + 7.9

Directions: Answer the following question(s).

7 **Irene is opening a lawn equipment rental business. She does not know how much equipment she needs to purchase, but she does know the cost of the equipment. This is shown in the table below.**

Item	Cost	Amount to Purchase
Trimmer	$195	x
Edger	$195	y
Mower	$295	z

Which of the following expressions represent Irene's total cost to purchase her equipment? Select *three* that apply.

A. $195(x + y + 100z)$

B. $195(x + y) + 295z$

C. $195x + 195y + 295z$

D. $195(x + y + z + 100)$

E. $195(x + y + z) + 100z$

F. $195 + x + 195 + y + 295 + z$

8 **For options A–E choose *all* of the expressions that are equivalent to $3(4x + 3)$.**

A. $12x + 3$

B. $3(3 + 4x)$

C. $7x + 6$

D. $4x + 3 + 4x + 3 + 4x + 3$

E. $12x + 9$

9 **Mark is buying supplies for his students. He is buying a notebook (n) and a pack of pencils for each of his 25 students. Each pack of pencils costs $1.25.**

If Mark's total cost is $156.25, which of the following equations can be used to find how much each notebook cost? Select *two* that apply.

A. $25(n) + 31.25 = 156.25$

B. $1.25(n) + 25 = 156.25$

C. $25(n) = 156.25 + 31.25$

D. $25(n) = 156.25 - 31.25$

10 **Amir has a $200 budget to spend on a graduation party for his son. He has already purchased $122 worth of drinks and party supplies. He wishes to buy chicken, pizza, or subs for the main course. Prices (including tax) are shown below.**

Food	Price
Chicken	$1.10 per piece
Pizza	$11.75 per large
Subs	$6.80 per foot

With Amir's budget, which of the following foods could he buy? Select *three* that apply.

A. 7 large pizzas

B. 10 large pizzas

C. 9 feet of subs

D. 11 feet of subs

E. 70 pieces of chicken

F. 71 pieces of chicken

Directions: Answer the following question(s).

11 **Yesterday, Chang planted 6 trees that were each 8 feet tall in his yard. Chang projects the trees to grow at the following annual rates over the next 5 years.**

Tree	Rate
Sycamore	2.5 feet
Sugar Maple	15 inches
Red Maple	3 feet
Fraser Fir	3 inches
Linden	1.5 feet
Oak	4 feet

Assume that _x_ represents the amount of years from when Chang planted the trees. Which of the following equations represent the height of each of the trees in 5 years? Select _two_ that apply.

A. Sycamore
$8 + 2.5x = 12.5$

B. Sugar Maple
$8 + 1.5x = 15.5$

C. Red Maple
$8x + 3 = 43$

D. Fraser Fir
$8 + 0.25x = 9.25$

E. Linden
$8x + 1.5 = 9.5$

F. Oak
$8 + 4x = 28$

12 **What value of _y_ makes the equation below true?**

$2y - 25 = 19$

A. 44

B. 22

C. −3

D. −6

13 **Bob bought a broken motor scooter, repaired it, and sold the scooter for $130. That was $50 less than 1.5 times what he paid for it.**

Which equation can be used to find, _p_, the amount of money Bob initially paid for the broken scooter?

A. $130(1.5) - 50 = p$

B. $130 - 50 = 1.5p$

C. $130 = 50 - 1.5p$

D. $130 = 1.5p - 50$

Directions: Answer the following question(s).

14 **Which of the following word problems can be solved using the equation $3x + 6 = 24$? Select two that apply.**

A. Julio already has 3 erasers. He buys erasers at a store that sells erasers in packs of 6. How many packs, *x*, of erasers does Julio buy if he ends up with 24 erasers?

B. A bug crawls away from a wall at a constant rate of 3 inches per minute. If the bug is already 6 inches away from the wall, how many minutes, *x*, would it take the bug to be 24 inches away from the wall?

C. A class reading list contains 24 books. Renee has read 6 of the books and is planning on reading the same number of books each month for 3 months. How many books, *x*, does Renee need to read each month to complete the reading list?

15 **Which of these equations has a solution of *x* = 2? Select *three* that apply.**

A. $3(x + 4) = 16x - 14$

B. $5x - 11 = 6x - x - 11$

C. $4x + 9 = 2(2x + 9)$

D. $12x + 7 = -(2x - 3) + 16x$

E.
$$\left(\frac{1}{2}\right)x = 4$$

16 **Which of these are solutions to the equation $-6(3x + 2) = 2x - 5 - 20x - 7$? Select *all* that apply.**

A. $x = 2$

B. $x = 4$

C. $x = 6$

17 **What value of *x* makes this statement true?**

$3x + 4 = 9x - 8$

A. -2

B. 1

C. 2

D. 12

18 **Solve:**

$2(3r + 4) - 3(r + 1) = 11$

A. 0

B. 2

C. 3

D. $\dfrac{16}{3}$

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Directions: Answer the following question(s).

19 **What value of *x* makes this statement true?**

$3x = 2x + 12$

A.   2

B.   5

C.   6

D.   12