

Beginning Algebra

Name: _____

Study Guide 2

Class: _____

Due Date: _____

Score: _____

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

1. (1 point) Convert to a mixed number: $-\frac{43}{4}$

1. _____

2. (1 point) Convert to an improper fraction: $-10\frac{11}{13}$

2. _____

3. (2 points) Simplify, and write your answer as a mixed number: $-7\frac{5}{8} \cdot 3\frac{1}{5}$

3. _____

4. (3 points) Simplify, and write your answer as a mixed number: $\left(-2\frac{1}{3}\right)^2 \div \left(-1\frac{5}{9}\right)$

4. _____

5. (3 points) Distribute and simplify: $\frac{3}{4}(8x^2 - 20x - 4) - 6x^2 + 15x + 3$

5. _____

6. (3 points) Simplify: $\left(1\frac{2}{3} - 2\frac{1}{2}\right) \div 2\frac{2}{9}$

6. _____

7. (3 points) Simplify: $\left(1\frac{3}{10} - 2\frac{2}{5}\right)\left(\frac{-3^2 - 4^2}{5 - 2^4}\right)$

7. _____

8. (3 points) Simplify: $\left(-\sqrt{\frac{9}{49}} - \sqrt{\frac{25}{64}}\right) \div \left(-1\frac{3}{56}\right)$

8. _____

9. (2 points) Distribute and simplify: $-3(-2x^2 + 4x - 1) - 3$

9. _____

10. (2 points) Distribute and simplify: $-2(x^2 - 3x + 5) + 3(x^2 - 2x + 3) - x^2$

10. _____

11. Name the properties of real numbers that are used below:

(a) (1 point) $4(x - 2) = 4x - 8$

(a) _____

(b) (1 point) $-1.5 + 0 = -1.5$

(b) _____

(c) (1 point) $\frac{-5}{2} \cdot \frac{2}{-5} = 1$

(c) _____

(d) (1 point) $5x \cdot 1 = 5x$

(d) _____

(e) (1 point) $-12 + 12 = 0$

(e) _____

(f) (1 point) $3x + (-3x) = 0$

(f) _____

(g) (1 point) $\frac{1}{4} \cdot 4 = 1$

(g) _____

(h) (2 points) $(3x - 8) + 8 = 3x + (-8 + 8) = 3x + 0 = 3x$

(h) _____

(i) (2 points) $2 \cdot \left(\frac{1}{2}x\right) = \left(2 \cdot \frac{1}{2}\right) \cdot x = 1 \cdot x = x$

(i) _____

12. (2 points) Simplify: $4(2x - 3y) - 3(x - 4y)$

12. _____

13. (2 points) Simplify: $-4(2x^2 - 3x - 5) - 3(x^2 + 4x + 10)$

13. _____

14. (2 points) Translate: Five times some number reduced by 8.
Let x be the number.

14. _____

15. (2 points) Translate: Twice the difference of 10 and some number increased by -20 .
Let x be the number.

15. _____

16. (2 points) Translate: Square of some number is equal to twice the number.
Let x be the number.

16. _____

17. (3 points) Simplify: $\frac{-4 + \frac{2}{5}}{3 - \frac{5}{12}}$

17. _____

18. (3 points) Simplify: $\frac{2\frac{1}{3} + 4\frac{1}{2}}{-6\frac{5}{6}}$

18. _____