

ALEKS® Final Practice #1

Intermediate Algebra / Xx Final (Ms. Warnke)

Student Name/ID:

1. The sets A and E are given below.

$$A = \{ 1, 2, 3, 4, 6 \}$$

$$E = \{ 0, 2, 3, 8 \}$$

Find the union of A and E .

Find the intersection of A and E .

Write your answers using set notation.

2. Solve for x .

$$-2(8x - 5) + 2x = 4(x + 5)$$

Simplify your answer as much as possible.

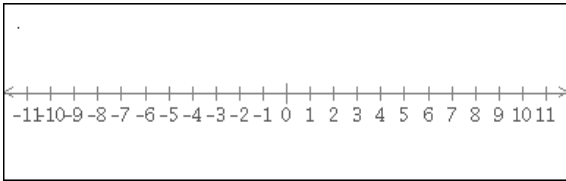
3. Solve the inequality for v .

$$-\frac{5}{7}v + 5 \leq -4v - 4$$

Simplify your answer as much as possible.

4. Solve the compound inequality.
Graph the solution on the number line.

$$-12 \leq 4x + 4 < 16$$

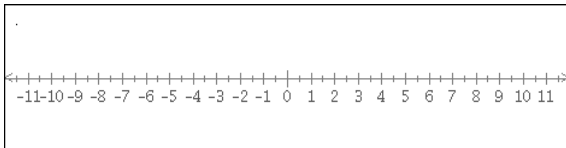


5. List all the solutions of the equation

$$|-2u - 9| = 9.$$

6. Graph the solution to the inequality on the number line.

$$|x - 2| > 6$$



7. Simplify.

$$\left(\frac{w^2}{-2u^4} \right)^3$$

Write your answer without parentheses.

8. Rewrite without parentheses and simplify.

$$(2u + 5)^2$$

9. Divide.

$$\frac{x^2 - 1}{x^2 + x - 6} \div \frac{x - 1}{3x + 9}$$

Simplify your answer as much as possible.

10. Add.

$$\frac{4}{3x^2 + 2x - 1} + \frac{2}{3x^2 - 4x + 1}$$

Simplify your answer as much as possible.

11. Simplify.

$$\frac{\frac{15s^4}{3t^5 u^3}}{\frac{5rs^2}{9t^2 u}}$$

12. Solve for y :

$$-\frac{7}{y-3} = -\frac{8}{3y-9} - 4 .$$

13. Simplify. Write your answers without exponents.

$$\left(\frac{1}{9}\right)^{\frac{3}{2}} =$$
$$32^{-\frac{4}{5}} =$$

14. Simplify as much as possible.

$$4x\sqrt{27u^3} - u\sqrt{75ux^2}$$

Assume that all variables represent positive real numbers.

15. Multiply.

$$(\sqrt{10} - 2)(2\sqrt{5} - 3)$$

Simplify your answer as much as possible.

16. Solve for u .

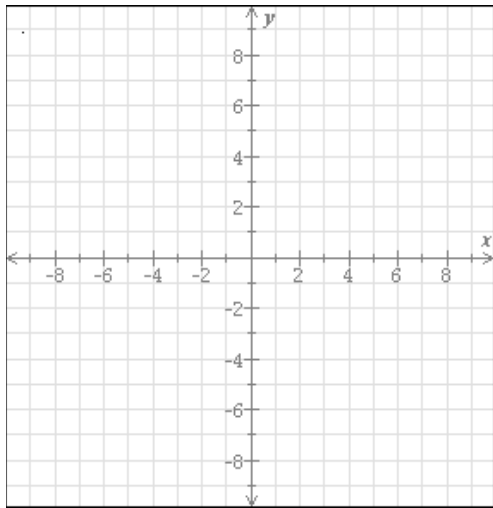
$$u^2 - 10u + 21 = 0$$

17. Solve for w .

$$5w^2 = -17w - 6$$

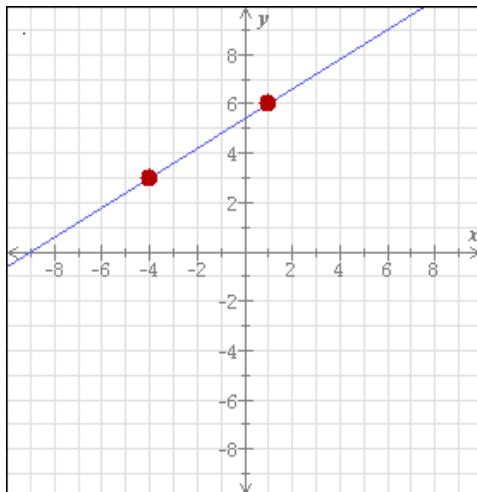
18. Graph the line.

$$2x - 5y = -5$$



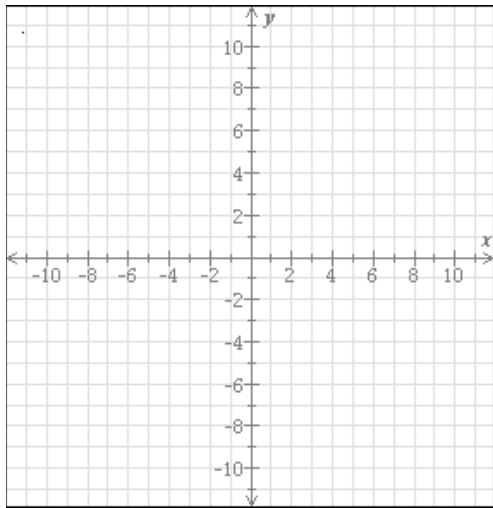
19. Find the slope of the line $3x + 5y = 3$.

20. Find an equation for the line below.



21. Graph the inequality.

$$4x + 3y < -12$$



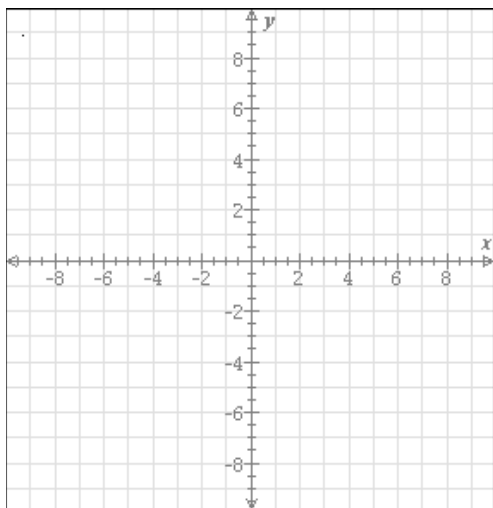
22. Solve the following system of equations.

$$-4x + 9y = 19$$

$$3x - 4y = -17$$

23. Graph the parabola:

$$y = -\frac{5}{4}x^2$$



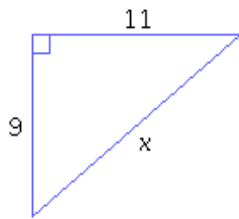
24. Evaluate the expression

$$a^2 - 8a + 5$$

when $a = -2$.

Simplify your answer as much as possible.

25. For the following right triangle, find the side length x . Round your answer to the nearest tenth.

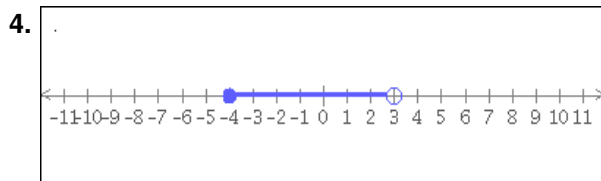


Final Practice #1 Answers for class Intermediate Algebra / Xx Final

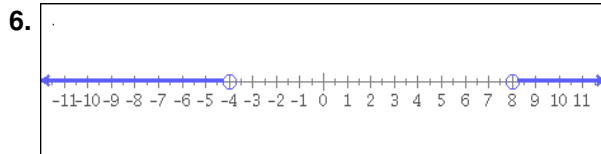
1. $A \cup E = \{0, 1, 2, 3, 4, 6, 8\}$
 $A \cap E = \{2, 3\}$

2. $x = -\frac{5}{9}$

3. $v \leq -\frac{63}{23}$



5. $u = -9, 0$



7. $-\frac{w^6}{8u^{12}}$

8. $(2u+5)^2 = 4u^2 + 20u + 25$

9. $\frac{3(x+1)}{x-2}$

10. $\frac{2}{(x-1)(x+1)}$

11. $\frac{9s^2}{rt^3u^2}$

12. $y = \frac{49}{12}$

13. $\left(\frac{1}{9}\right)^{\frac{3}{2}} = \frac{1}{27}$

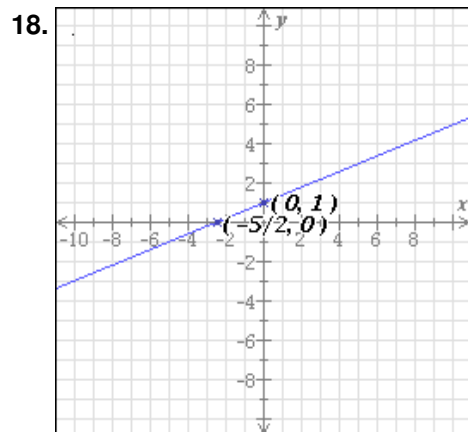
$32^{-\frac{4}{5}} = \frac{1}{16}$

14. $7ux\sqrt{3u}$

15. $10\sqrt{2} - 3\sqrt{10} - 4\sqrt{5} + 6$

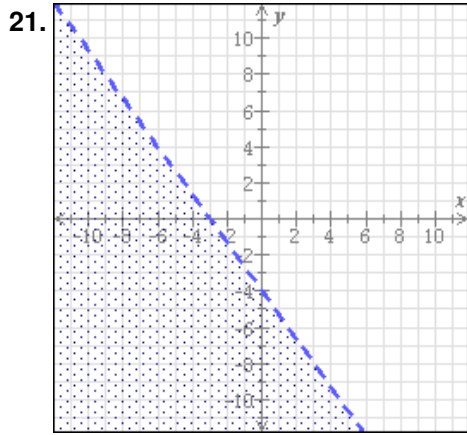
16. $u = 3, 7$

17. $-\frac{2}{5}, -3$

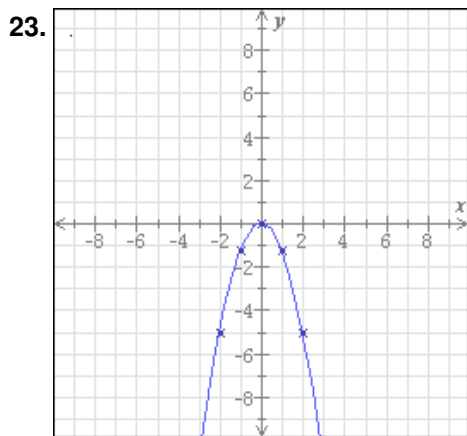


19. $-\frac{3}{5}$

20. $y = \frac{3}{5}x + \frac{27}{5}$



22. $x = -7$
 $y = -1$



24. 25

25. 14.2