

Student: _____
Date: _____

Instructor: George Jensen
Course: Pre-College Mathematics II
 24406 W - Fall 2018 2nd 7 wk

Assignment: Final Exam Review

1. The height of a mountain is 8150 meters. Find the approximate height of this mountain in feet.

8150 m \approx _____ ft (Round to the nearest integer as needed.)

ID: 6.1.59

2. Translate the phrase to an algebraic expression. Let x represent the unknown number.
 the sum of twice a number and 33

The algebraic expression is _____.

ID: 7.5.43

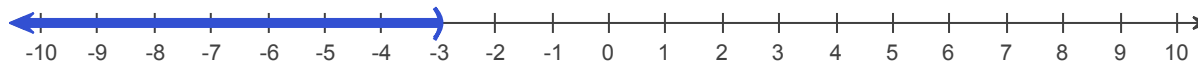
3. Find the missing number in the proportion.

$$\frac{1.75}{21} = \frac{4.55}{y}$$

$y =$ _____ (Type an integer or a decimal.)

ID: 5.2.55

4. Select the interval notation that is represented by the given graph.



Choose the correct answer below.

- $(\infty, -3)$
 $(-\infty, -3)$
 $(-3, \infty)$
 $(-3, -\infty)$

ID: 7.8.45

5. Solve the equation. Check your solution.

$$\frac{6}{7}(x+1) = \frac{1}{14}(x+4)$$

$x =$ { _____ } (Type an integer or a simplified fraction.)

ID: 7.3.37

6. Solve the formula for the indicated variable.

$$P = b + 3a + c, \text{ for } b$$

$$b = \underline{\hspace{2cm}}$$

(Use integers or fractions for any numbers in the expression. Simplify your answer.)

ID: 7.4.51

7. Convert the measurement as indicated.

47 L to quarts

$$47 \text{ L} \approx \underline{\hspace{2cm}} \text{ qt (Round to the nearest hundredth as needed.)}$$

ID: 6.1.55

8. Solve the equation. Check your solution.

$$0.03(2c - 26) = -0.6(c - 2)$$

The solution set is $\{\underline{\hspace{2cm}}\}$. (Simplify your answer.)

ID: 7.3.59

9. Convert the measurement to the desired metric unit.

31 cL to kiloliters

$$31 \text{ cL} = \underline{\hspace{2cm}} \text{ kL (Simplify your answer. Type an integer or a decimal.)}$$

ID: 6.1.43

10. Solve the compound inequality. Graph the solution set.

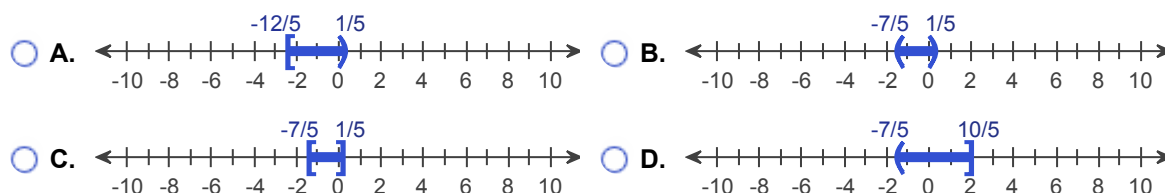
$$-6 \leq 5x + 1 \leq 2$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\underline{\hspace{2cm}}$.
(Type your answer in interval notation. Use integers or simplified fractions for any numbers in the expression.)

- B. The solution is the empty set.

Choose the graph of the solution set below.



ID: 7.9.53

11. Find the solution of the linear inequality and express the solution set in set-builder notation and interval notation. Graph the solution set on the real number line.

$$4x - 3 \geq 3 + x$$

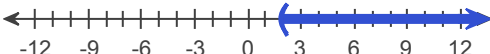
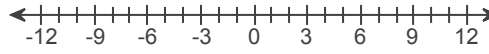



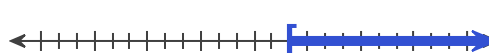
Express the solution in set-builder notation. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{x \mid \underline{\hspace{2cm}}\}$.
(Use integers or fractions for any numbers in the expression.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Express the solution in interval notation. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\underline{\hspace{2cm}}$.
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution is the empty set.

Choose the graph of the inequality below.

- A. 
- B. 
- C. 
- D. 
- E. 
- F. 

ID: 7.8.69

12. Solve the compound inequality. Graph the solution set.

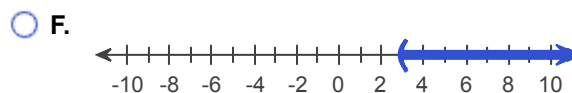
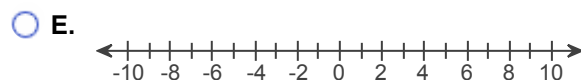
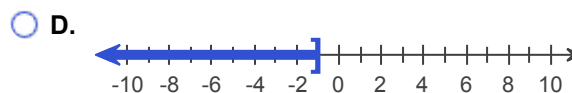
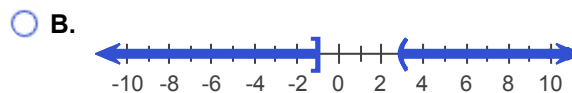
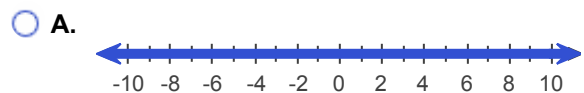
$$x < 3 \text{ and } x \geq -1$$

What is the solution? Select the correct choice below and fill in any answer boxes in your choice.

A. _____ (Type your answer in interval notation.)

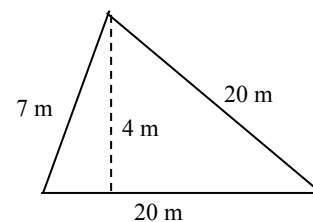
B. There is no solution.

Choose the correct graph of the solution set.



ID: 7.9.43

13. Find the perimeter and area of the triangle shown on the right.



The perimeter of the triangle is _____ (1) _____

The area of the triangle is _____ (2) _____

- (1) square m. (2) m.
 m. square m.

ID: 6.2.49

14. Solve the compound inequality. Graph the solution set.

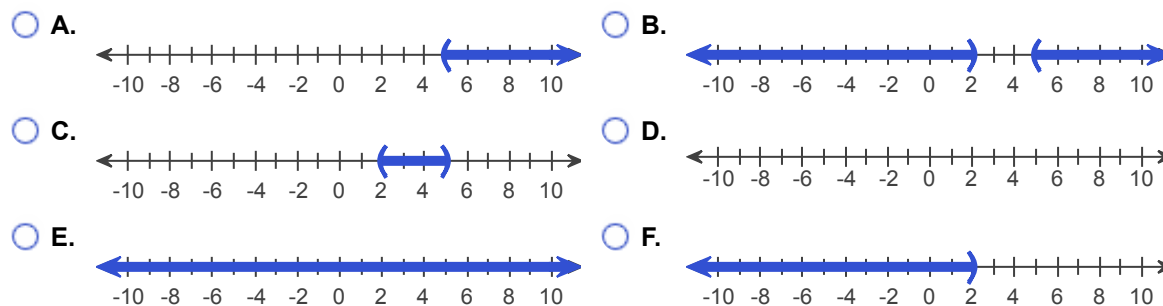
$$4x - 4 < 4 \text{ and } -5x + 5 > -20$$

What is the solution? Select the correct choice below and fill in any answer boxes in your choice.

- A. _____
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

- B. There is no solution.

Choose the correct graph of the solution set.



ID: 7.9.47

15. Solve the equation. Check your answer.

$$\frac{1}{3}x + \frac{3}{5} = \frac{4}{15}$$

The solution set is { _____ }. (Simplify your answer.)

ID: 7.3.27

16. Solve the percent problem using the proportion method.

What percent of 344 is 86?

86 is _____ % of 344.

ID: 5.4.47

17. Solve the compound inequality. Graph the solution set.

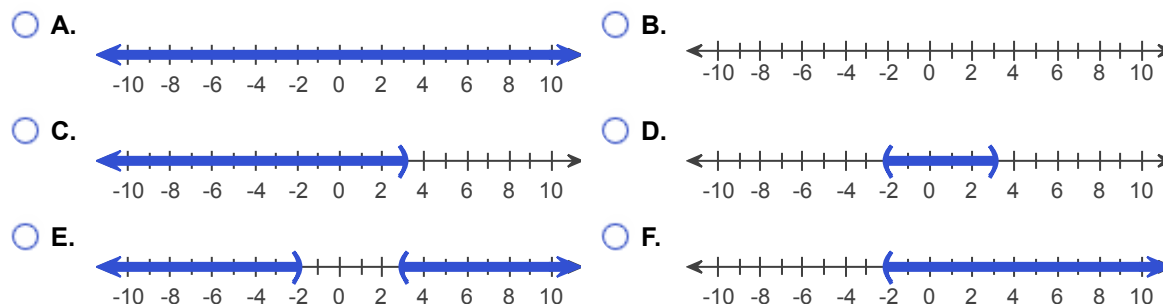
$$x - 4 < -6 \text{ or } x + 2 > 5$$

What is the solution? Select the correct choice below and fill in any answer boxes in your choice.

A. _____
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

B. There is no solution.

Choose the correct graph of the solution set.



ID: 7.9.69

18. The two stadiums with the largest capacities are Marshfield Stadium and Bowden Stadium. Marshfield Stadium has a capacity of 6,715 more than Bowden. If the combined capacity for the two stadiums is 210,355, find the capacity for each stadium.

The capacity of Bowden Stadium is _____ people.

The capacity of Marshfield Stadium is _____ people.

ID: 7.5.67

19. A bus traveled at an average rate of 70 miles per hour and then reduced its average rate to 40 miles per hour for the rest of the trip. If the 419-mile trip took 8 hours, determine how long the bus traveled at each rate.

The time spent traveling at 70 miles per hour is _____ (1) _____
(Type an integer or a decimal.)

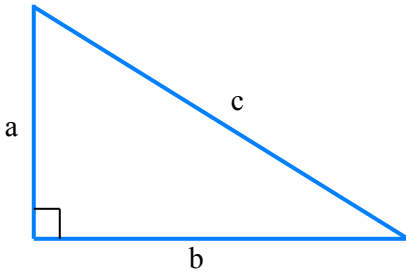
The time spent traveling at 40 miles per hour is _____ (2) _____
(Type an integer or a decimal.)

- (1) hour(s). (2) hour(s).
 mph. mph.
 mile(s). mile(s).

ID: 7.7.43

20. Use the right triangle shown below and find the missing length. Give an exact answer and decimal approximation correct to two decimal places.

$$b = 3, c = 13$$



The exact answer is $a =$ _____.
(Simplify your answer. Type an exact answer, using radicals as needed.)

The approximation is $a \approx$ _____.
(Round to two decimal places as needed.)

ID: 6.3.71

21. Find the solution of the linear inequality and express the solution set in set-builder notation and interval notation. Graph the solution set on the real number line.

$$-7x < 56$$

Express the solution in set-builder notation. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{x \mid \underline{\hspace{2cm}}\}$.
(Use integers or fractions for any numbers in the expression.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Express the solution in interval notation. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is _____.
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution is the empty set.

Choose the correct graph of the inequality below.

- A. B.
- C. D.
- E. F.

ID: 7.8.65

22. Solve the equation. State whether the equation is a contradiction, an identity, or a conditional equation.

$$7(z + 4) = 6(z - 3) + z$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is {_____}.
(Simplify your answer. Type an integer or a fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

State whether the equation is a contradiction, an identity, or a conditional equation.

- Conditional
- Contradiction
- Identity

ID: 7.3.63

23. Fill in the blank to complete the sentence.

The _____ of a circle is the distance around the circle.

The (1) _____ of a circle is the distance around the circle.

- (1) area
- circumference
- radius
- diameter

ID: Quick Check 6.2.28

24. Solve the equation.

$$2x - 8 = 2$$

The solution set is {_____}.

ID: Quick Check 7.2.2

25. The total price for a new motorcycle is \$12,994.79. The tax, title, and dealer preparation charges amount to \$639.79. Find the price of the motorcycle before the extra charges.

The price of the motorcycle before the extra costs is \$ _____.

ID: 7.5.69

26. Solve the equation using the addition property of equality. Be sure to check your solution.

$$x - 6 = 15$$

The solution set is { _____ }. (Simplify your answer.)

ID: 7.1.37

27. Solve the equation.

$$-5(2n + 6) = 11n$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { _____ }.
(Simplify your answer. Type an integer or a fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

ID: 7.3.75

28. The perimeter of a rectangular garden is 88 yards. The width of the garden is four yards less than twice the length.

- (a) Find the length and width of the garden.
(b) What is the area of the garden?

The length of the garden is _____ (1) _____ (Type an integer or a decimal.)

The width of the garden is _____ (2) _____ (Type an integer or a decimal.)

The area of the garden is _____ (3) _____ (Type an integer or a decimal.)

- (1) cubic meters. square yards. (2) cubic meters. square yards.
 cubic yards. square meters.
 square meters. yards.
 yards. cubic yards.
- (3) square yards.
 yards.
 cubic meters.
 meters.

ID: 7.7.37

29. Determine if the given number is a solution of the equation.

$$-6b + 4 + 4b = -3b + 5; b = 4$$

Choose the correct answer below.

- No
 Yes

ID: Quick Check 7.1.5

30. Solve the equation.

$$0.7p + 4 = 0.3(p + 6) + 0.4(p + 1)$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{\underline{\hspace{2cm}}\}$.
(Simplify your answer. Type an integer or a fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

ID: 7.3.85

31. A flag pole that is 36 feet tall casts a shadow 8 feet long. At the same time of day, a building casts a shadow 29 feet long. How tall is the building?

The building is feet tall.
(Type an integer or a decimal.)

ID: 5.2.73

32. Determine whether the given statement is true or false.

The inequality $x \geq -17$ is written in interval notation as $[-17, \infty)$.

Choose the correct answer below.

- False
 True

ID: Quick Check 7.8.6

33. Roman answered 12 of 25 questions correctly on a quiz. What percent of questions did he answer correctly?

Roman answered % of the questions correctly.

ID: Quick Check 5.4.12

34. At the end of the summer, gas grills that usually cost \$400 were on sale for \$328. Find the percent decrease of the price of a gas grill.
-

The price of a gas grill decreased by _____ %.

ID: Quick Check 5.6.4

1. 26,732

2. $2x + 33$

3. 54.6

4. $(-\infty, -3)$ 5. $-\frac{8}{11}$ 6. $P - 3a - c$

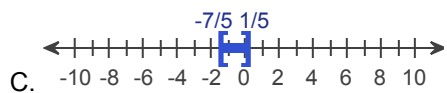
7. 49.82

8. 3

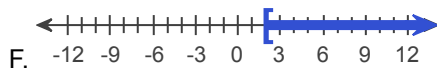
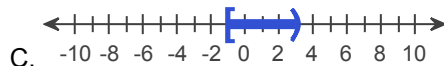
9. 0.00031

10. A. The solution set is $\left[-\frac{7}{5}, \frac{1}{5}\right]$.

(Type your answer in interval notation. Use integers or simplified fractions for any numbers in the expression.)

11. A. The solution set is $\{x \mid x \geq 2\}$. (Use integers or fractions for any numbers in the expression.)A. The solution set is $[2, \infty)$.

(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

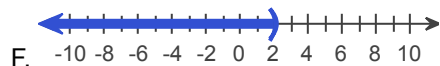
12. A. $[-1, 3)$ (Type your answer in interval notation.)

13. 47

(1) m.

40

(2) square m.

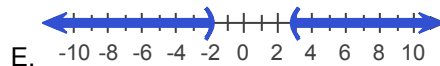
14. A. $(-\infty, 2)$ (Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

15. -1

16. 25

17. A. $(-\infty, -2) \cup (3, \infty)$

(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



18. 101,820

108,535

19. 3.3

(1) hour(s).

4.7

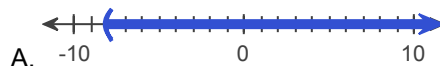
(2) hour(s).

20. $4\sqrt{10}$

12.65

21. A. The solution set is $\{x \mid x > -8\}$. (Use integers or fractions for any numbers in the expression.)A. The solution set is $(-8, \infty)$.

(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



22. C. The solution is the empty set.

Contradiction

23. (1) circumference

24. 5

25. 12,355.00

26. 21

27. A. The solution set is $\left\{ -\frac{10}{7} \right\}$. (Simplify your answer. Type an integer or a fraction.)

28. 16

(1) yards.

28

(2) yards.

448

(3) square yards.

29. No

30. C. The solution is the empty set.

31. 130.5

32. False

33. 48

34. 18
