Class Name : **Lacoste College Algebra Spring 2020 - CRN22385 MW3**

Instructor Name : **Prof. Lacoste**

Student Name : _____

Instructor Note : **All Practice Problems for Exam 1. There are multiple versions so that you can try challenging problems more than once. Contact me if you need even more versions.**

Question 1 of 60

Simplify.

$$\sqrt[3]{125x^{12}}$$

Assume that the variable represents a positive real number.

Question 2 of 60

Simplify.

$$\sqrt{128}$$

Question 3 of 60

Simplify.

$$\sqrt{x^{11}}$$

Assume that the variable represents a positive real number.

Question 4 of 60

Write the following expression in simplified radical form.

$$\sqrt[4]{48x^{19}y^{16}}$$

Assume that all of the variables in the expression represent positive real numbers.

Question 5 of 60

Simplify.

$$8\sqrt{2}-3\sqrt{2}$$

Question 6 of 60

Simplify.

$$\sqrt{18}\ +\ 4\sqrt{50}$$

Question 7 of 60

Simplify.

$$\sqrt{50x}-\sqrt{8x}$$

Assume that the variable represents a positive real number.

Question 8 of 60

Simplify.

$$\sqrt{2}\cdot\sqrt{7}$$

Question 9 of 60

Simplify.

$$\sqrt{12}\cdot\sqrt{6}$$

Question 10 of 60

Rewrite the expression by factoring out $(u+2)$.

$$3u^2(u+2)+2(u+2)$$

Question 11 of 60

Factor by grouping.

$$3v^3 - 5v^2 - 6v + 10$$

Question 12 of 60

Factor by grouping.

$$uv - 36u + 9u^2 - 4v$$

Question 13 of 60

Factor.

$$y^2 + 10y + 16$$

Question 14 of 60

Factor.

$$x^2 + 8xy - 20y^2$$

Question 15 of 60

Factor completely.

$$3v^2 - 39v - 90$$

Question 16 of 60

Factor.

$$5y^2 + 7y + 2$$

Question 17 of 60

Factor.

$$21y^2 + 19y - 2$$

Question 18 of 60

Factor.

$$6z^2 + 31z + 18$$

Question 19 of 60

Factor.

$$5x^2 - 17xy + 6y^2$$

Question 20 of 60

Factor completely.

$$-2x^2 - 9x - 10$$

Question 21 of 60

Factor.

$$y^2 + 10y + 25$$

Question 22 of 60

Factor.

$$4x^2 + 36x + 81$$

Question 23 of 60

Factor.

$$25u^2 - 20uy + 4y^2$$

Question 24 of 60

Factor.

$$49y^2 - 25$$

Question 25 of 60

Factor.

$$25u^2 - 4w^2$$

Question 26 of 60

Factor completely.

$$32x - 50x^3$$

Question 27 of 60

Factor completely.

$$3y^4 - 75x^2y^2$$

Question 28 of 60

Factor completely.

$$10u^4 - 26u^3 - 12u^2$$

Question 29 of 60

Factor completely:

$$2u^2y^4 - 2u^2.$$

Question 30 of 60

Factor.

$$64 - 27w^3$$

Question 31 of 60

Write in terms of i.
Simplify your answer as much as possible.

$$\sqrt{-50}$$

Question 32 of 60

Add.

$$(4 - 5i) + (3 - 2i)$$

Write your answer as a complex number in standard form.

Question 33 of 60

Solve.

$$(1 - v)(5v + 7) = 0$$

(If there is more than one solution, separate them with commas.)

Question 34 of 60

Solve for v.

$$6v^2 - 12v = 0$$

Question 35 of 60

Solve for x.

$$x^2 - 9x + 14 = 0$$

Question 36 of 60

Solve for v.

$$3v^2 + 3 = -10v$$

Question 37 of 60

Solve for w .

$$2w^2 - 6w - 20 = (w-1)^2$$

If there is more than one solution, separate them with commas.

Question 38 of 60

Solve $x^2 = 45$, where x is a real number.
Simplify your answer as much as possible.

Question 39 of 60

Solve $(v+7)^2 - 24 = 0$, where v is a real number.
Simplify your answer as much as possible.

Question 40 of 60

Use the quadratic formula to solve for x.

$$4x^2 + 9x + 3 = 0$$

Question 41 of 60

Find all complex solutions of $2x^2 - x + 6 = 0$.

Question 42 of 60

Use the quadratic formula to solve for x.

$$2x^2 + 8x = 1$$

Round your answer to the nearest hundredth.

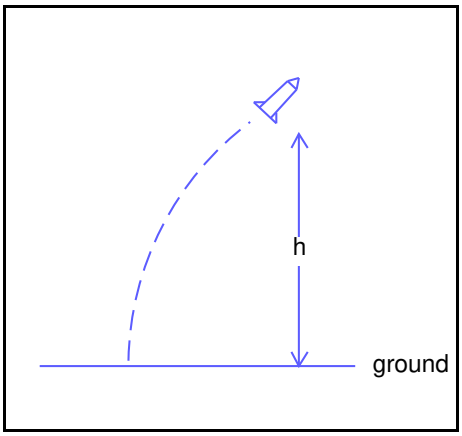
Question 43 of 60

A model rocket is launched with an initial upward velocity of 215 ft/s. The rocket's height h (in feet) after t seconds is given by the following.

$$h = 215t - 16t^2$$

Find all values of t for which the rocket's height is 97 feet.

Round your answer(s) to the nearest hundredth.
(If there is more than one answer, use the "or" button.)



Question 44 of 60

Solve for x.

$$|5x - 15| = 5$$

Question 45 of 60

Solve for w.

$$|w - 4| + 10 = 29$$

Question 46 of 60

Solve for u.

$$4\left|u-7\right|+12=72$$

Question 47 of 60

Solve for y, where y is a real number.

$$\sqrt{3y+13}+1=3$$

Question 48 of 60

Solve for y, where y is a real number.

$$\sqrt{7y-1}=\sqrt{9y-15}$$

Question 49 of 60

Solve for w, where w is a real number.

$$w+1=\sqrt{22-2w}$$

Question 50 of 60

Solve for x, where x is a real number.

$$\sqrt{6x+37}-\sqrt{2x+13}=2$$

Question 51 of 60

If an object is dropped from a height of h meters and hits the ground in t seconds, then $t=\sqrt{\frac{h}{4.9}}$. Suppose that an object is dropped from the top of a building that is 216.58 meters tall. How long does it take to hit the ground? Round your answer to the nearest tenth.

Question 52 of 60

Solve the inequality for y.

$$-2 \leq -\frac{5}{7}y + 3$$

Simplify your answer as much as possible.

Question 53 of 60

Solve the inequality for x.

$$9x - 38 > -5(4 - 3x)$$

Simplify your answer as much as possible.

Question 54 of 60

Solve the inequality for u.

$$2 - \frac{5}{6}u < u + \frac{3}{8}$$

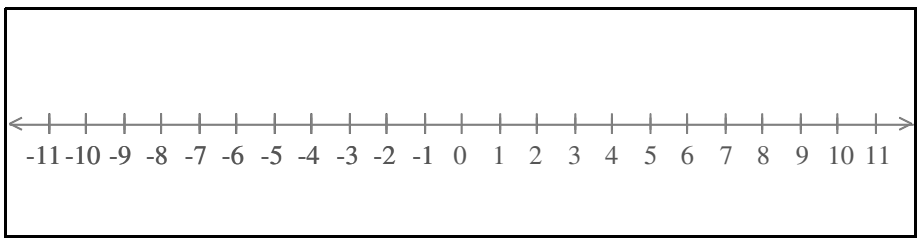
Simplify your answer as much as possible.

Question 55 of 60

Solve the compound inequality.

$$2x - 6 \geq 6 \text{ or } 2x - 6 < -14$$

Graph the solution on the number line.



Question 56 of 60

Solve the compound inequality.

$$3y - 5 > -2 \quad \text{or} \quad 4y - 3 \geq 21$$

Write the solution in interval notation.
If there is no solution, enter $\varnothing$.

Question 57 of 60

For his phone service, Carlos pays a monthly fee of $\$24$, and he pays an additional $\$0.07$ per minute of use. The least he has been charged in a month is $\$104.29$.

What are the possible numbers of minutes he has used his phone in a month?
Use m for the number of minutes, and solve your inequality for m.

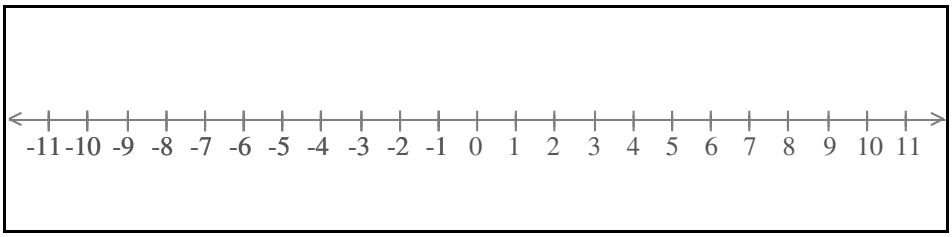
Question 58 of 60

Write an absolute value inequality for the graph below.
Use x for your variable.

Question 59 of 60

Graph the solution to the inequality on the number line.

$$\left|3u-3\right| \leq 12$$



Question 60 of 60

Solve.

$$3\left|u+1\right| - 7 < 14$$

Exam 1 Practice Problems #2 Answers for class Lacoste College Algebra Spring 2020 - CRN22385 MW3

Question 1 of 60

$5x^4$

Question 2 of 60

$8\sqrt{2}$

Question 3 of 60

$x^5\sqrt{x}$

Question 4 of 60

$2x^4y^4\sqrt[4]{3x^3}$

Question 5 of 60

$5\sqrt{2}$

Question 6 of 60

$23\sqrt{2}.$

Question 7 of 60

$3\sqrt{2x}$

Question 8 of 60

$\sqrt{14}$

Question 9 of 60

$6\sqrt{2}$

Question 10 of 60

$(u+2)\left(3u^2+2\right)$

Question 11 of 60

$(3v-5)(v^2-2)$

Question 12 of 60

$(v+9u)(u-4)$

Question 13 of 60

$(y+2)(y+8)$

Question 14 of 60

$(x-2y)(x+10y)$

Question 15 of 60

$3(v+2)(v-15)$

Question 16 of 60

$(y+1)(5y+2)$

Question 17 of 60

$(y+1)(21y-2)$

Question 18 of 60

$(2z+9)(3z+2)$

Question 19 of 60

$(x-3y)(5x-2y)$

Question 20 of 60

$-(x+2)(2x+5)$

Question 21 of 60

$(y+5)^2$

Question 22 of 60

$(2x+9)^2$

Question 23 of 60

$(5u-2y)^2$

Question 24 of 60

$(7y+5)(7y-5)$

Question 25 of 60

$(5u+2w)(5u-2w)$

Question 26 of 60

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

Question 27 of 60

$3y^2(y+5x)(y-5x)$

Question 28 of 60

$2u^2(u-3)(5u+2)$

Question 29 of 60

$2u^2(y-1)(y+1)\left(y^2+1\right)$

Question 30 of 60

$(4-3w)\left(16+12w+9w^2\right)$

Question 31 of 60

$5i\sqrt{2}$

Question 32 of 60

$7-7i$

Question 33 of 60

$v=1\ ,\ -\frac{7}{5}$

Question 34 of 60

$v=0,\ 2$

Question 35 of 60

$x=7,\ 2$

Question 36 of 60

$-\frac{1}{3},\ -3$

Question 37 of 60

$w=-3,\ 7$

Question 38 of 60

$x=3\sqrt{5},\ -3\sqrt{5}$

Question 39 of 60

$v=-7+2\sqrt{6},\ -7-2\sqrt{6}$

Question 40 of 60

$\frac{-9+\sqrt{33}}{8},\ \frac{-9-\sqrt{33}}{8}.$

Question 41 of 60

$x=\frac{1}{4}+\frac{\sqrt{47}}{4}i,\frac{1}{4}-\frac{\sqrt{47}}{4}i$

Question 42 of 60

$x = 0.12,\ -4.12$

Question 43 of 60

$t = 0.47$ seconds
or $t = 12.97$ seconds

Question 44 of 60

$x = 4,2$

Question 45 of 60

$w = 23,\ -15$

Question 46 of 60

$u = 22,\ -8$

Question 47 of 60

$y = -3$

Question 48 of 60

$y = 7$

Question 49 of 60

$w = 3$

Question 50 of 60

$x = -2$

Question 51 of 60

6.6 seconds

Question 52 of 60

$7 \geq y$

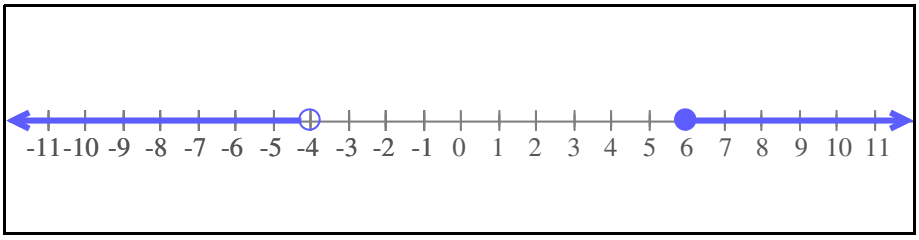
Question 53 of 60

$x < -3$

Question 54 of 60

$u > \frac{39}{44}$

Question 55 of 60



Question 56 of 60

$(1, \infty)$

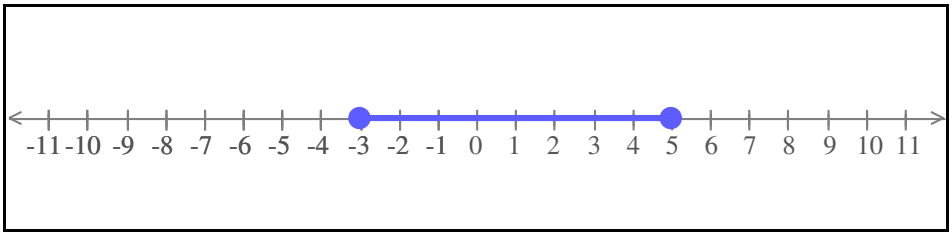
Question 57 of 60

$m \geq 1147$

Question 58 of 60

$|x| \leq 7$

Question 59 of 60



Question 60 of 60

$-8 < u < 6$