Student: _____ **Date:** _____	**Instructor:** George Jensen **Course:** Pre-College Mathematics V 39119 W - Spring 2020 2nd 7 wk **Assignment:** Test #2 Review

1. Rationalize the denominator.

$$-\frac{18}{5\sqrt{6}}$$

$-\frac{18}{5\sqrt{6}}$ = _____ (Type an exact answer, using radicals as needed.)

ID: 14.6.15

2. Rationalize the denominator. Simplify if possible.

$$\frac{10}{\sqrt{6}+1}$$

$\frac{10}{\sqrt{6}+1}$ = _____

(Simplify your answer. Type an exact answer using radicals as needed.)

ID: 14.6.39

3. Evaluate the radical function at the indicated values.

$f(x) = \sqrt{x+30}$

(a) $f(6)$ **(b)** $f(3)$ **(c)** $f(-5)$

(a) $f(6)$ = _____

(b) $f(3)$ = _____

(c) $f(-5)$ = _____

ID: 14.7.9

4. For the given function, **(a)** determine the domain of the function; **(b)** graph the function using point plotting; **(c)** based on the graph, determine the range of the function.

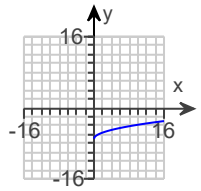
$G(x) = \sqrt{7 - x}$

(a) The domain of G(x) is _____.
(Type your answer in interval notation.)

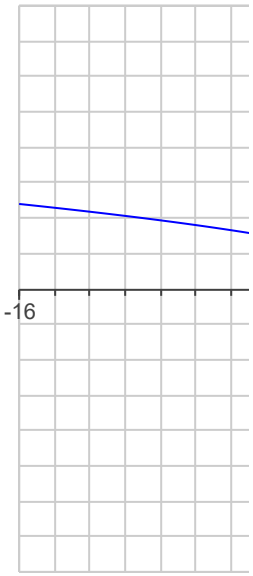
(b) Graph $G(x) = \sqrt{7 - x}$. Choose the correct answer on the right.

(c) The range of G(x) is _____.
(Type your answer in interval notation.)

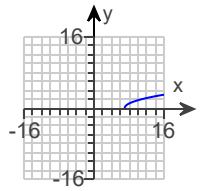
A.



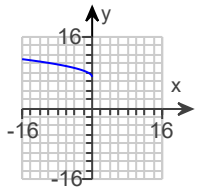
B.



C.



D.



ID: 14.7.41

5. Solve the equation.

$\sqrt{2t+6} = 6$

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

- **A.** The solution set is $\{\quad\}$.
  (Simplify your answer. Type an integer or a fraction. Use a comma to separate answers as needed.)
- **B.** The solution set is the empty set.

ID: 14.8.17

---

6. Solve the equation.

$\sqrt{3x+81} = 9 + \sqrt{x}$

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

- **A.** The solution set is $\{\quad\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is the empty set.

ID: 14.8.51

---

7. Add.

$(6+9i)+(2-5i)$

$(6+9i)+(2-5i) =$ _____ (Type your answer in the form a + bi.)

ID: 14.9.43

---

8. Write the radical as a pure imaginary number.

$\sqrt{-27}$

$\sqrt{-27}$ = _____

(Simplify your answer. Type an exact answer, using radicals as needed. Express complex numbers in terms of i.)

ID: 14.9.29

---

9. Multiply.

$(5 + 6i)(9 + i)$

$(5 + 6i)(9 + i)$ = _____

(Simplify your answer. Type your answer in the form a + bi.)

ID: 14.9.55

---

10. Divide.

$\frac{6}{5 + i}$

$\frac{6}{5 + i}$ = _____

(Simplify your answer. Type your answer in the form a + bi. Use integers or fractions for any numbers in the expression.)

ID: 14.9.85

---

11. Solve the equation.

$x^2 - x - 42 = 0$

The solution set is $\{$ _____ $\}$. (Use a comma to separate answers as needed.)

ID: 11.6.67

---

12. Solve the equation using the square root property.

$x^2 = 80$

The solution set is $\{\quad\}$.
(Simplify your answer. Type exact answers, using radicals as needed. Express complex numbers in terms of i. Use a comma to separate answers as needed.)

ID: 15.1.21

---

13. Solve the quadratic equation by completing the square.

$p^2 - 3p + 4 = 0$

The solution set is $\{\quad\}$.
(Simplify your answer. Type an exact answer, using radicals and i as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

ID: 15.1.63

---

14. Solve the equation.

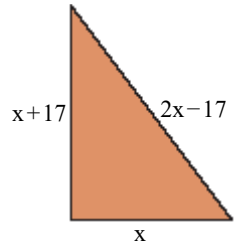
$w^2 - 7w + 4 = 0$

The solution set is $\{\quad\}$.
(Simplify your answer. Type an exact answer, using radicals and i as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

ID: 15.2.51

---

15. Use the Pythagorean Theorem to determine the value of x and the measurements of all sides of the right triangle shown to the right.



Find the value of x.

x = _____

Find the measurements of all sides of the right triangle. Select the correct choice below and fill in the answer boxes to complete your choice.

(Use a comma to separate answers as needed.)

- **A.** For the smaller value of x = _____, the lengths of the sides of the triangle are _____. For the larger value of x = _____, the lengt
- **B.** For the single value of x = _____, the lengths of the sides of the triangle are _____.

ID: 15.2.83

1. $-\frac{3\sqrt{6}}{5}$

---

2. $2\left(\sqrt{6}-1\right)$

---

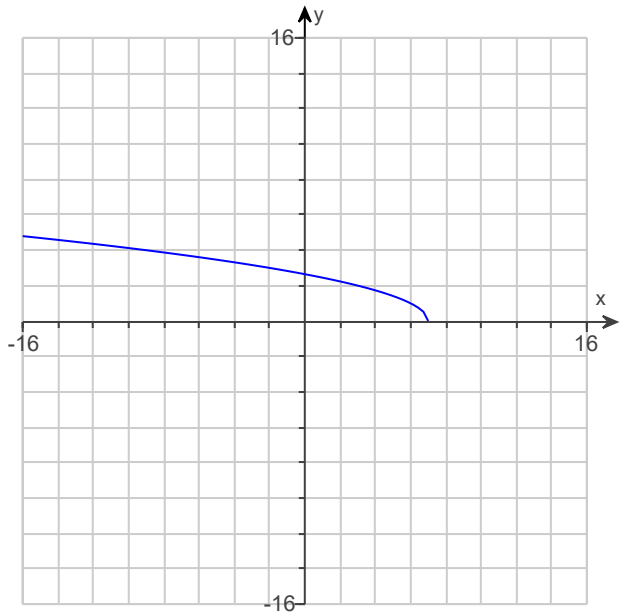
3. 6

$\sqrt{33}$

5

---

4. $(-\infty,7]$



B.

$[0,\infty)$

---

5. A. The solution set is $\{$ **15** $\}$.(Simplify your answer. Type an integer or a fraction. Use a comma to separate answers as needed.)

---

6. A. The solution set is $\{$ **0,81** $\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

7. $8 + 4i$

---

8. $3i\sqrt{3}$

---

9. $39 + 59i$

---

10. $\frac{15}{13} - \frac{3}{13}i$

---

11. $-6,7$

---

12. $4\sqrt{5}, -4\sqrt{5}$

---

13. $\frac{3+\sqrt{7}\cdot i}{2}, \frac{3-\sqrt{7}\cdot i}{2}$

---

14. $\frac{7+\sqrt{33}}{2}, \frac{7-\sqrt{33}}{2}$

---

15. 51

B. For the single value of x = **51**, the lengths of the sides of the triangle are **68,51,85**.
