CP – Algebra 1
QUEST Ch 11

Name:_____
If I was Wyatt Spector, _____
_____

Directions: ***Show all work.*** *Place answer on the blank line next to problem number.* Total: _____ / 70

Multiple Choice: *Write the letter of the answer on the blank line next to the problem. (2 pts. each)*

_____1) Which expression is equivalent to $\sqrt{72}$?

a) $\sqrt{70}+\sqrt{2}$
b) $6\sqrt{2}$
c) 12
d) 36

_____ 2. Simplify $\frac{2}{\sqrt{8}}$

a. $\frac{\sqrt{2}}{8}$
b. $\frac{1}{4}$
c. $\frac{\sqrt{2}}{2}$
d. 2

_____3. Which expression is equivalent to $\sqrt{24}\cdot\sqrt{2}$ in its simplest form?

a. $4\sqrt{3}$
b. $16\sqrt{3}$
c. $2\sqrt{12}$
d. $12\sqrt{2}$

_____ 4. Solve $\sqrt{3x-5}-2=0$

a. $x=\frac{9}{25}$
b. $x=\frac{1}{3}$
c. $x=\frac{29}{3}$
d. $x=3$

_____5. Which of the triangles with the given side lengths is ***NOT*** a right triangle?

a. 3,4,5
b. 9,39,41
c. 15,20,25
d. 11,60,61

Simplify each expression and answer in simplified radical form. Show all of your work to receive full credit. Place your answer on the line provided: *(3 pts. each)*

_____6. $\sqrt{54}$

_____7. $-3\sqrt{96}$

_____8. $\sqrt{48x^6y^9}$

_____9. $\sqrt{12} \bullet \sqrt{3y^2}$

_____10. $\dfrac{6}{\sqrt{3b}}$

_____11. $\sqrt{\dfrac{4p^2}{q^6}}$

_____12. $5\sqrt{2} - 3\sqrt{2} + 12\sqrt{2}$

_____13. $3\sqrt{12} - 5\sqrt{27}$

_____14. $3\sqrt{3x} - \sqrt{27x}$

_____15. $3\sqrt{7}(\sqrt{3} - 2\sqrt{7})$

Solve each equation. Show all of your work to receive full credit. Place your answer on the line provided: *(3 pts. each)*

_____16. $\sqrt{4x}+5=2$

_____17. $\sqrt{3x+1}-4=3$

_____18. $5\sqrt{2x}=80$

_____19. $\sqrt{4x+7}-\sqrt{2x+13}=0$

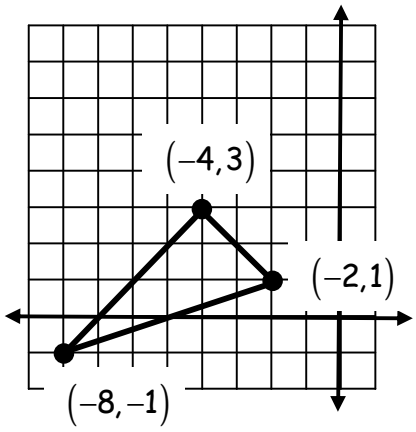
Use the Pythagorean Theorem to find the missing side c. *(3 pts. each)*

_____20. $a=6,\ b=8,$ *find* $c.$

Find the midpoint between the two points. *(3 pts. each)*

_____21. $(5,4)$ and $(1,1)$

_____ 22. $(-9,-2)$ and $(3,-2)$

23. 

a. Find the length of each line segment (6 points)

b. Use the converse of the Pythagorean Theorem to determine whether the points are the vertices of a right triangle. (3 points)

Bonus: Given the endpoint: (2,3) and midpoint (-4,-6) of a line segment, find the length of the line segment. (+ 3 points)