CP – Algebra 1
QUEST Ch 11 (no 11.5)

Name _____
Over spring break, _____
_____

Directions: ***Show all work.*** *Place answer on the blank line next to problem number.* Total: _____ / 55

Multiple Choice: *Write the letter of the answer on the blank line next to the problem. (1 pt. 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

_____ 6. Which expression is the simplified form of $\left(\sqrt{a}\right)^2$?

a. 1
b. a
c. a^2
d. $\sqrt{a}$

7. Fill in the box using the given information. *(3 pts)*

Value of a and b	Value of $\sqrt{a}\cdot\sqrt{b}$	Value of $\sqrt{ab}$
$a=4, b=9$		
$a=16, b=36$		
$a=3, b=8$		

8. Simplify each radical as much as possible. *(8 pts)*

a. $\sqrt{121}$ _____ b. $\sqrt{36}$ _____ c. $\sqrt{-4}$ _____ d. $\sqrt{4\cdot 7}$ _____

e. $\sqrt{54}$ _____ f. $\sqrt{x^2}$ _____ g. $\sqrt{100x^2}$ _____ h. $\sqrt{90}$ _____

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: ***(32 pts)***

_____9. $\sqrt{\frac{4}{81}}$ _____10. $-3\sqrt{96}$

_____11. $\sqrt{48x^6y^9}$ _____12. $\sqrt{12}\cdot\sqrt{3y^2}$

_____13. $\frac{6}{\sqrt{3x}}$ _____14. $\sqrt{\frac{4p^2}{q^6}}$

_____15. $5\sqrt{2}-3\sqrt{2}+12\sqrt{2}$ _____16. $3\sqrt{12}-5\sqrt{27}$

_____17. $\sqrt{12}\bullet\sqrt{3x}\bullet\sqrt{2x^3}$ _____18. $3\sqrt{7}(\sqrt{3}-2\sqrt{7})$

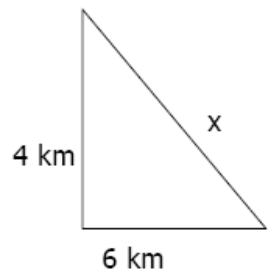
Solve each equation. Show all of your work to receive full credit. Place your answer on the line provided: *(2 pts. each)*

_____19. $\sqrt{4x}+5=2$ _____20. $\sqrt{3x+1}-4=3$

_____21. $8\sqrt{x}-24=0$ _____22. $\sqrt{4x+7}-\sqrt{2x+13}=0$

23. Find the missing side length of the triangle. *(2 pts each)*

a.



b.