Bilingual math worksheet: quadratic radical name: score:

1. Find the range of a to make the expressions meaningful.
2. $\sqrt{a}$ (2) $\sqrt{-a}$

 (3) $\sqrt{a-1}$ (4) $\sqrt{1-a}$

 (5) $\sqrt{2a-6}$ (6) $\sqrt{a-1}+\sqrt{6-2a}$

1. Find the square roots and principal square root for each number.
2. 1 (2) 4 (3) 25

 (4) $\frac{49}{16}$ (5) $\frac{81}{4}$ (6) $\frac{7}{4}$

1. Simplify the following expressions.
2. $\sqrt{72}$ (2) $\sqrt{\frac{27}{a^{3}}}$ (3) $\sqrt{8}-2×\frac{\sqrt{2}}{2}$

 (4) $a\sqrt{\frac{1}{a}}+4\sqrt{ab^{2}}-2\sqrt{a}(b>0)$ (5) $3x\sqrt{2xy^{2}}-y\sqrt{8x^{3}}-2xy\sqrt{\frac{x}{2}}(y>0)$

 (6) $\sqrt{a}×\sqrt{ab}÷\sqrt{\frac{1}{b}}$ (7) $\sqrt{27}-15\sqrt{\frac{1}{3}}+\frac{1}{4}\sqrt{48}$

1. If $\left|a-2\right|+\sqrt{b-3}=0$, find the value of $\sqrt{a^{2}-b}$
2. If $y=\sqrt{x-1}+\sqrt{1-x}+2$, find the value of $(\sqrt{xy})^{2}$
3. If we define an operator $∇:x∇y=\sqrt{xy+4}, $then find the value of $(2∇6)∇8$
4. If $a=\sqrt{5}+2, b=\sqrt{5}-2$, find the value of $\sqrt{a^{2}+b^{2}+7}$
5. In $RT∆ABC, ∠C=90°, AC=\sqrt{5}+\sqrt{7}, BC=\sqrt{7}-\sqrt{5}$
6. find the length of AB
7. find the area of this triangle.