Geometry Test Review Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Radicals, Pythagorean Theorem, & Special Right Triangles Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_

**Simplify the following radicals. Leave your answer in radical form – NO DECIMALS, but you may have fractions. There MUST be work shown…**

1. $8\sqrt{2}∙6\sqrt{30}$ 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. $\sqrt{96}$ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. $\sqrt{24x^{6}}$ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. $\frac{\sqrt{15}}{3\sqrt{6}}$ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Using the ratio for a 45-45-90 triangle, fill in each box. NO DECIMALS.**

**5.**

|  |  |  |
| --- | --- | --- |
| 45 | 45 | 90 |
|  |  |  |
|  |  | 8$\sqrt{2}$ |

|  |  |  |
| --- | --- | --- |
| 45 | 45 | 90 |
|  |  |  |
| 7 |  |  |

 **6.**

**7.**

|  |  |  |
| --- | --- | --- |
| 45 | 45 | 90 |
|  |  |  |
| $$5\sqrt{3}$$ |  |  |

**Using the ratio for a 30-60-90 triangle, fill in each row. NO DECIMALS.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **8. 9.**

|  |  |  |
| --- | --- | --- |
| 30 | 60 | 90 |
|  |  |  |
| $$4$$ |  |  |

 |

|  |  |  |
| --- | --- | --- |
| 30 | 60 | 90 |
|  |  |  |
|  |  | **14** |

 | **10.**

|  |  |  |
| --- | --- | --- |
| 30 | 60 | 90 |
|  |  |  |
| $$4\sqrt{3}$$ |  |  |

 |

**Solve for each using ONLY the 30-60-90 or 45-45-90 ratio method. Do not use the Pythagorean Theorem. NO DECIMALS.**



11. 60°

11. a=\_\_\_\_\_\_\_\_\_\_\_\_\_ b=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12.



c=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



13. e=\_\_\_\_\_\_\_\_\_\_\_\_\_

 f=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**For the application problems, use the best method. YOU MUST draw a diagram. NO DECIMALS. NO WORK – NO CREDIT.**

18. What is the length of the altitude of an equilateral triangle with side lengths of 38 inches?

 Picture:

 Altitude = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. The bottom of a ladder must be placed 10 feet from a wall. The ladder makes a 450 angle with the ground. How long is the ladder?

 Picture:

 Ladder = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_