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| **Notes – Special Right Triangles & Trigonometry** | **Name:** |
| **Standard:** | **Hour:** |

**Objective:** I can find the exact value of trig ratios for 30o, 45o, 60o using special right triangles.

**Warm-up.**

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Find the missing side lengths of each of the special right triangles.



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| --- | --- | --- |
| 18 | 3  30o | 8  60o |

**Explore**

Find the exact value each of the indicated trig ratios. Simplify your answers leaving no radicals in the denominator.

|  |
| --- |
| 18  A  B  C  9  60o |
| J  K  F  30o |
| X  Y  Z  1  60o |
| 45o  A  B  C |
| 6  Y  X  Z |
| 45o  D  E  F |

**Summary – So regardless of the size of the special right triangle, the trig ratios all reduce down to the same value!**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 30o | 45o | 60o |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Homework** – Special Right Triangles & TrigName: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fill in the side lengths of each of the special right triangles. Assume the shortest side to have a length of 1.

|  |  |
| --- | --- |
| 30o |  |

Find the indicated values using the triangle provided. Simplify your answers.

X

Y

Z

1

60o

|  |  |
| --- | --- |
| 45o  D  E  F  = \_\_\_\_\_\_\_\_\_ | J  K  F  8 |
| 6  Y  X  Z  6 |  |
|  | 7  A  B  C |

**Rapid Practice**

Find the exact value for each trig ratio *without* using a calculator. A picture may be helpful, but no work is required.

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|  |  |
| Find the value for angle , in degrees, *without* using a calculator. A picture may be helpful, but no work is required. | |
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