Angle Between Two Vectors WS Name_____

Find the measure of the angle between the two vectors.

1) $\mathbf{u} = \langle -5, 5 \rangle$
$\mathbf{v} = \langle -7, -4 \rangle$

2) $\mathbf{u} = \langle 3, -6 \rangle$
$\mathbf{v} = \langle 2, -3 \rangle$

3) $\mathbf{u} = \langle -3, 1 \rangle$
$\mathbf{v} = \langle -8, 0 \rangle$

4) $\mathbf{u} = \langle -5, 7 \rangle$
$\mathbf{v} = \langle 4, 8 \rangle$

5) $\mathbf{u} = \langle -6, 9 \rangle$
$\mathbf{v} = \langle -3, -2 \rangle$

6) $\mathbf{u} = \langle 9, 5 \rangle$
$\mathbf{v} = \langle 3, -5 \rangle$

7) $\mathbf{u} = \langle -9, 6 \rangle$
$\mathbf{v} = \langle -9, 8 \rangle$

8) $\mathbf{u} = \langle 4, -4 \rangle$
$\mathbf{v} = \langle 3, 3 \rangle$

9) $\mathbf{u} = \langle 3, 8 \rangle$
$\mathbf{v} = \langle -5, 4 \rangle$

10) $\mathbf{u} = \langle 9, -2 \rangle$
$\mathbf{v} = \langle 0, -3 \rangle$

11) $\mathbf{u} = \langle 4, 1 \rangle$
$\mathbf{v} = \langle 0, 5 \rangle$

12) $\mathbf{u} = \langle 9, -8 \rangle$
$\mathbf{v} = \langle 5, 5 \rangle$

Answers to

1) 74.74°
2) 7.13°
3) 18.43°
4) 62.1°
5) 90°
6) 88.09°
7) 7.94°
8) 90°
9) 71.9°
10) 77.47°
11) 75.96°
12) 86.63°