Math 2030, Fall 2017, Quiz/Worsheet 1
5 September 2017
R. Bruner

On the following coordinate grid, draw the following vectors.
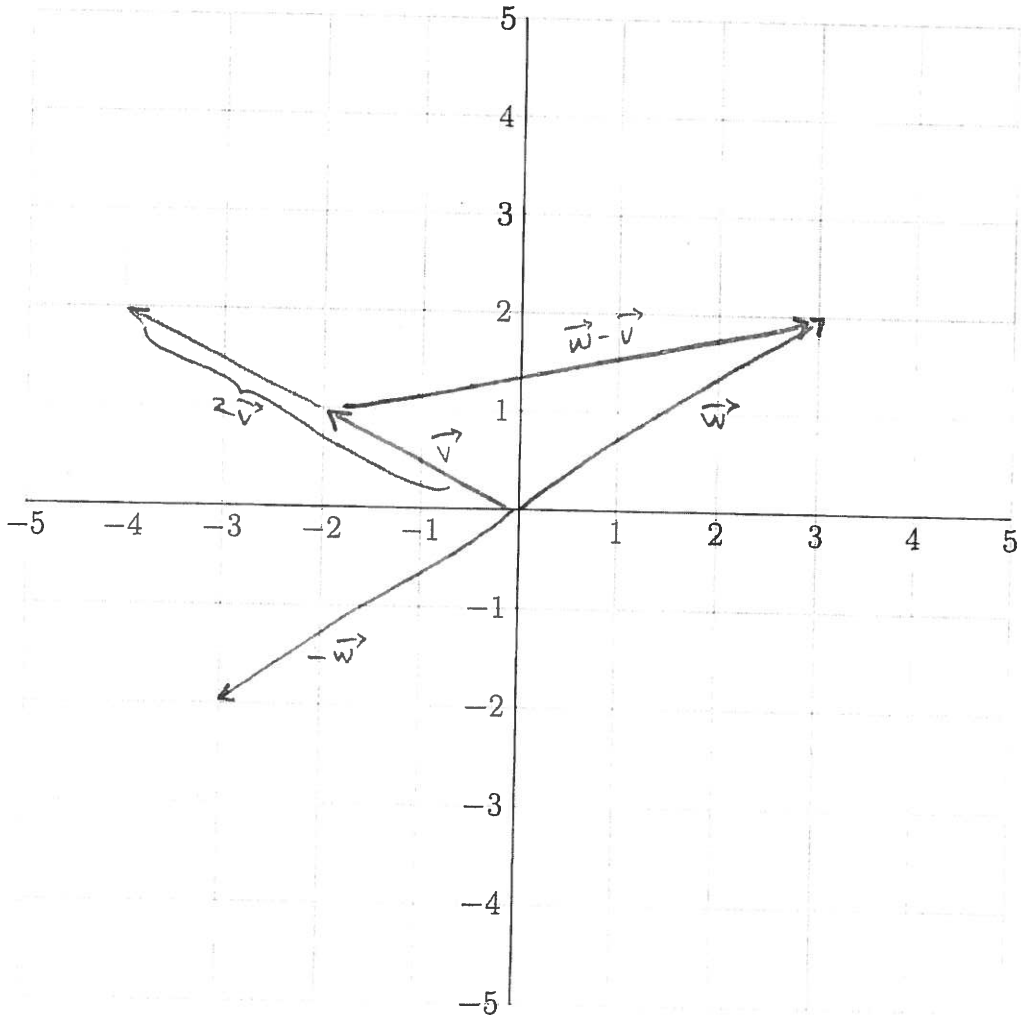
1. $\vec{v} = (-2, 1)$

2. $\vec{w} = (3, 2)$

Compute and draw.

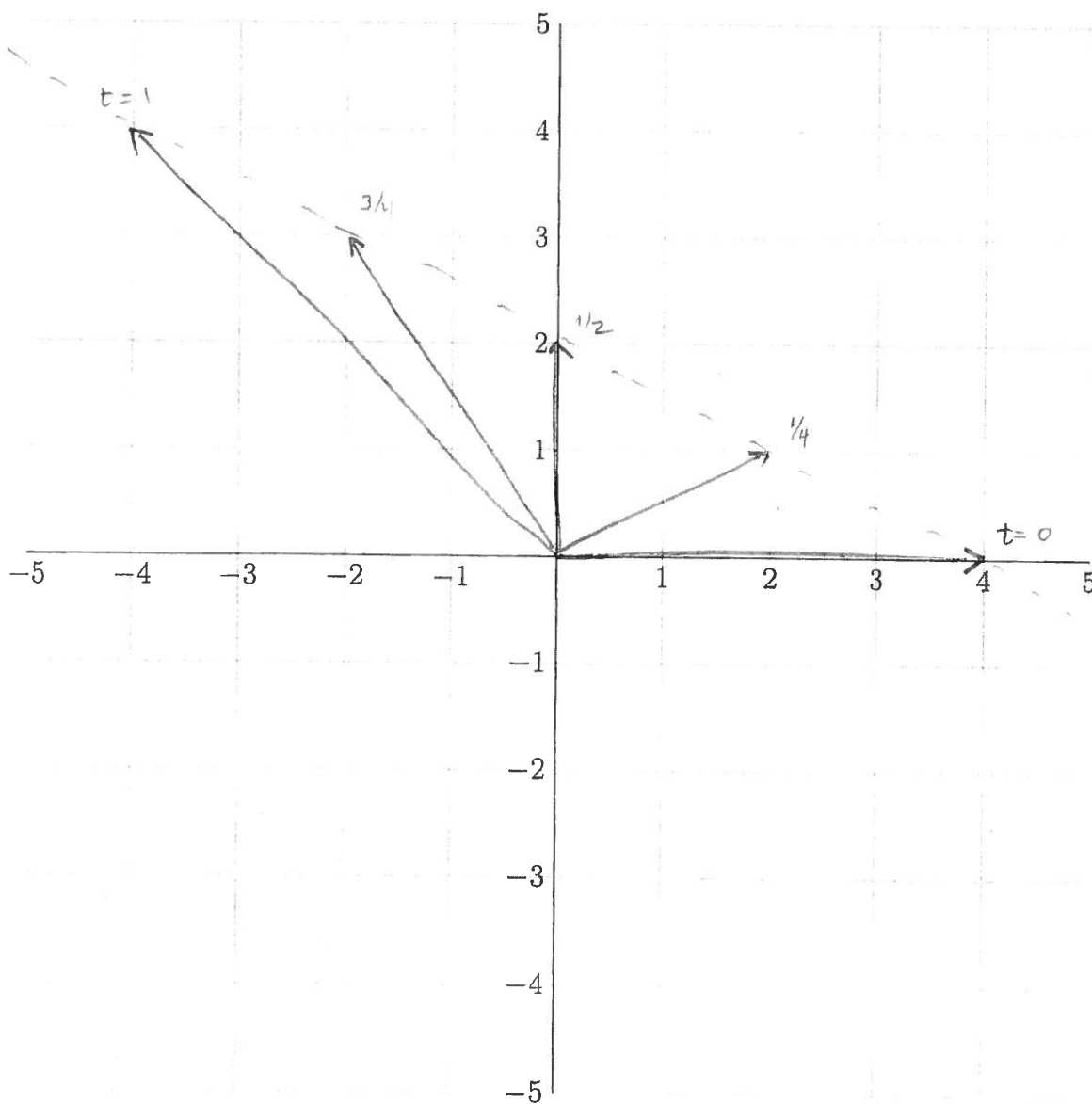3. $\vec{w} - \vec{v} = (5, 1)$

4. $-\vec{w} = (-3, -2)$

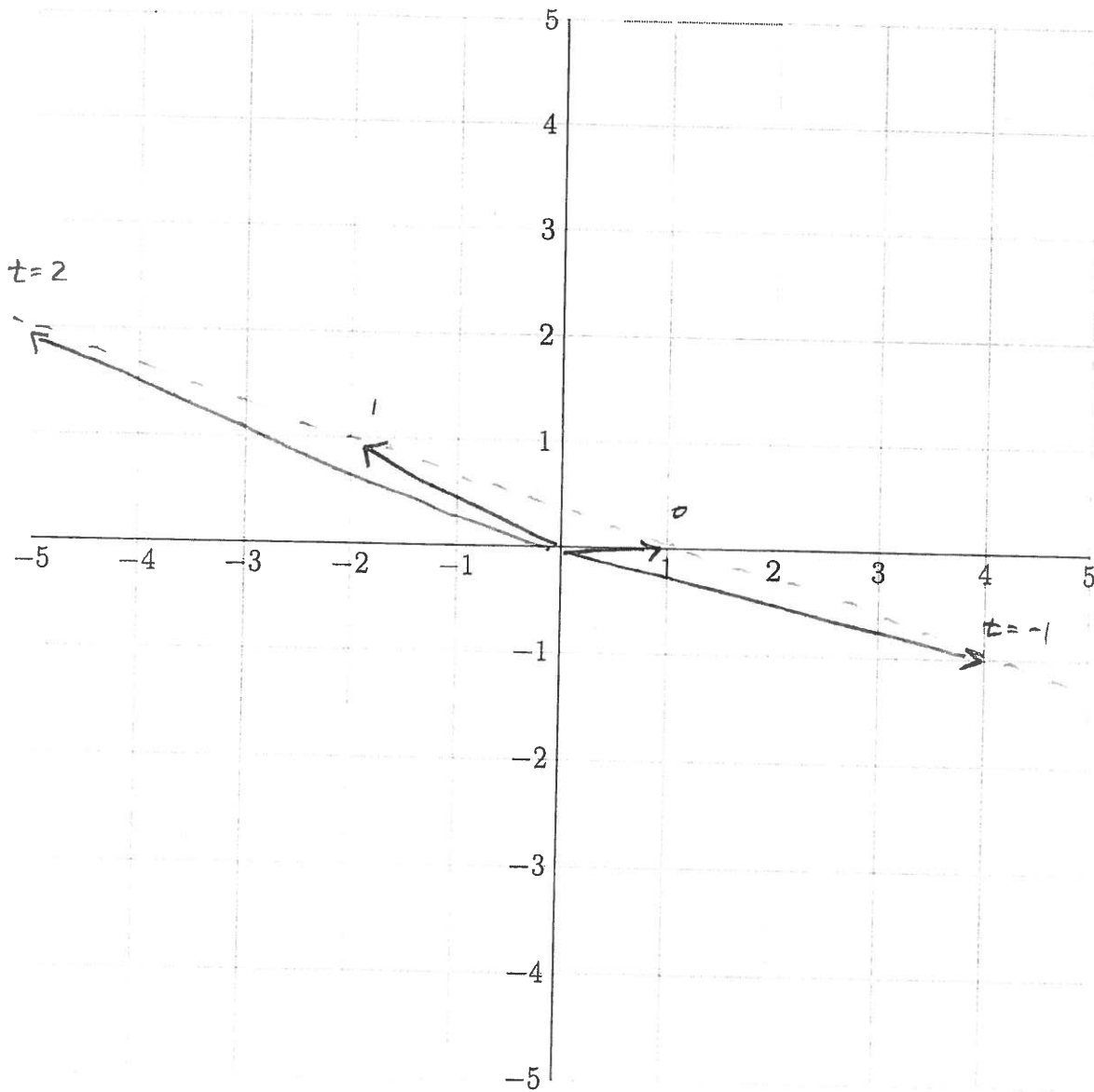5. $2\vec{v} = (-4, 2)$

1. 5
2. 5
3. 4
4. 5
___
19

Let $\vec{v} = (-4, 4)$ and $\vec{w} = (4, 0)$. For each value of t in the chart below, compute the vector $t\vec{v} + (1 - t)\vec{w}$. Plot them on the following coordinate grid, indicating the value of t at each.

t	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
$t\vec{v} + (1 - t)\vec{w}$	(4, 0)	(2, 1)	(0, 2)	(-2, 3)	(-4, 4)

Let $\vec{v} = (-2, 1)$ and $\vec{w} = (1, 0)$. For each value of t in the chart below, compute the vector $t\vec{v} + (1 - t)\vec{w}$. Plot them on the following coordinate grid, indicating the value of t at each.

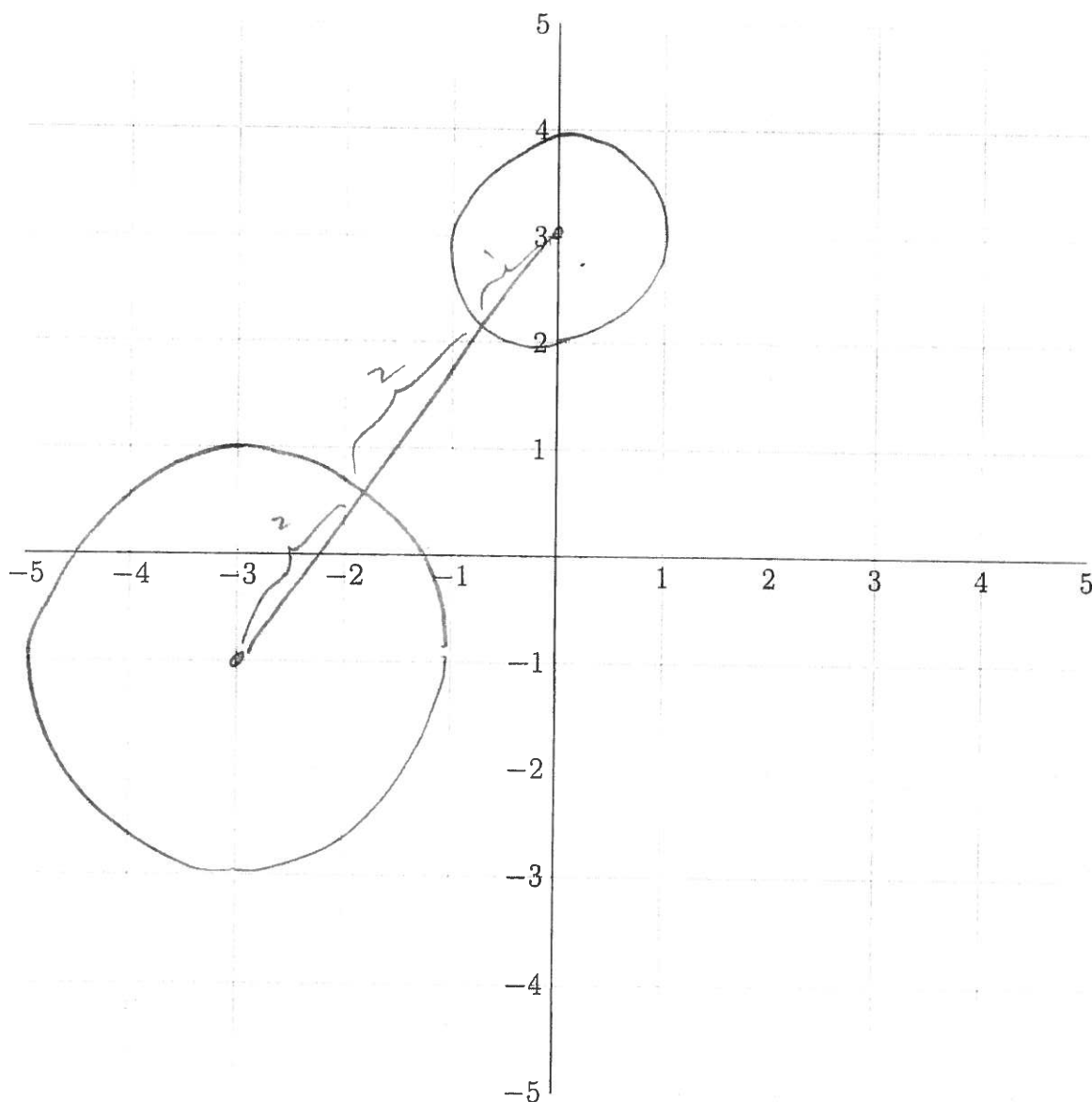| t	-1	0	1	2
$t\vec{v} + (1 - t)\vec{w}$	$(4, -1)$	$(1, 0)$	$(-2, 1)$	$(-5, 2)$

Write the equations for the circles

1. with center $(-3, -1)$ and radius 2, and

2. with center $(0, 3)$ and radius 1.

$(x + 3)^2 + (y + 1)^2 = 4$

$x^2 + (y - 3)^2 = 1$

Sketch them on the following coordinate system and find the distance between them.

Dist between centers $= 5$

    Subtract radii -3

Dist between closest
    points on the circles $= 2$