

Name: _____

WORKSHEET

Triangle addition of vectors

1 Use a diagram to add the following pairs of vectors using triangle addition.

a $(3, 0^\circ)(4, 90^\circ)$

b $(2, 90^\circ)(3, 45^\circ)$

c $(2, 90^\circ)(3, 180^\circ)$

d $(2, 120^\circ)(2, 150^\circ)$

e $(3, 0^\circ)(4, 135^\circ)$

f $(1, 180^\circ)(3, 225^\circ)$

g $(3, 270^\circ)(2, 100^\circ)$

h $(4, 225^\circ)(3, 60^\circ)$

i $(3, 300^\circ)(2, 200^\circ)$

j $(1, 343^\circ)(3, 343^\circ)$

k $(2, 26^\circ)(5, 241^\circ)$

l $(3.5, 143^\circ)(1.5, 197^\circ)$

m $(3.8, 79^\circ)(4.7, 295^\circ)$

n $(1.9, 203^\circ)(2.8, 354^\circ)$

2 Find the resultant force acting on an object given the following pairs of forces.

a 2N north, 3N east

b 5N south, 1N west

c 7N north, 6N south

d 4N east, 9N south

e 5N north-east, 3N south

f 2N south-west, 3N north-east

g 3.5N north-west, 4.5N south

h 5N south-east, 2.8N west

3 Find the resultant displacement given the following displacements

a 2 cm south, 4 cm west

b 6 cm west, 1 cm north

c 3 cm NW, 4 cm SE

d 7 cm NNE, 5 cm WSW

e 4 cm ESE, 9 cm NNW

f 3 cm SSW, 7 cm NE

g 4 cm WNW, 5 cm NNE

h 7 cm ENE, 2.5 cm WSW

i 4.2 cm WNW, 3.8 cm SSE

j 7.7 cm SW, 5.3 cm ESE

k 4.9 cm NNW, 6.2 cm ENE

l 6.9 cm SSW, 7.1 cm ENE

m 2.8 cm N32°E, 5.7 cm N81°W

n 5.6 cm S76°W, 3.9 cm N58°E

Answers

(Answers on scale drawings should be within 1 mm and 1 degree of answers given)









