

Name: _____

_____/20

Chapter 5.1 Homework
Conceptual Physics

Parent Signature: _____

Reviewing Concepts

1. Provide two examples of vector quantities and two examples of scalar quantities. (1)

Vectors:

Scalars:

2. List the three different ways in which a force vector can be described. (1)

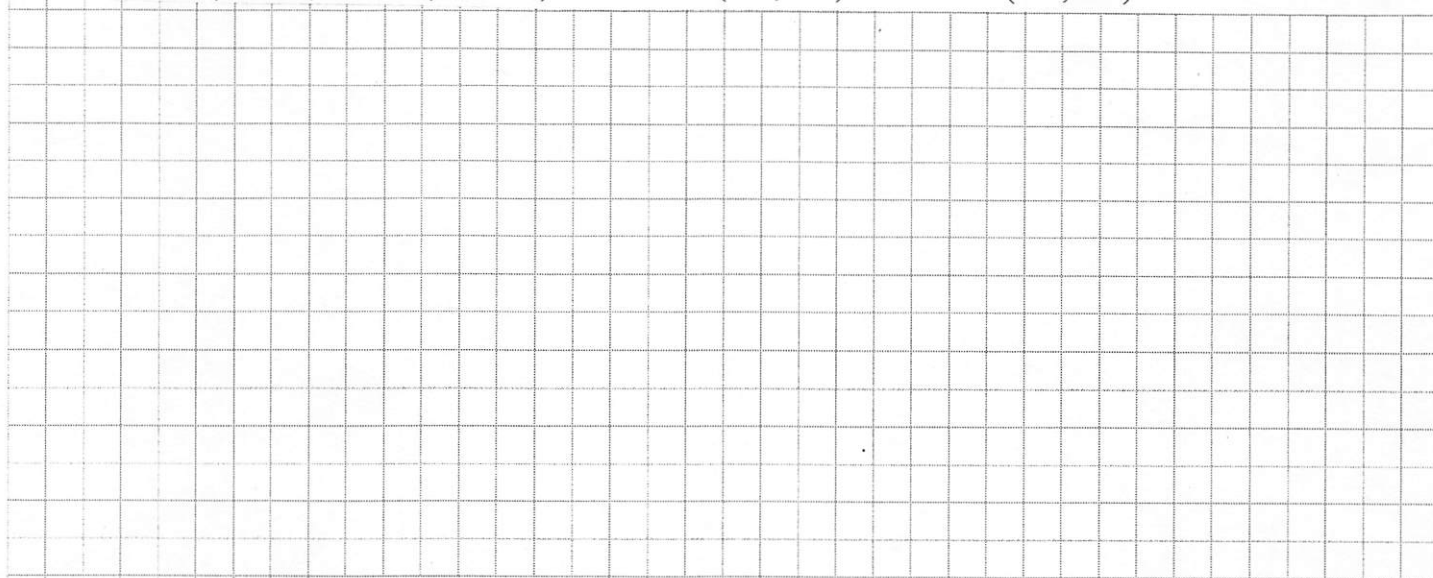
4. Explain the Pythagorean theorem using an equation and a picture. (1)

5. A 200-N television sits on a table. Draw a free-body diagram showing the two forces acting on the television. (1)

Solving Problems

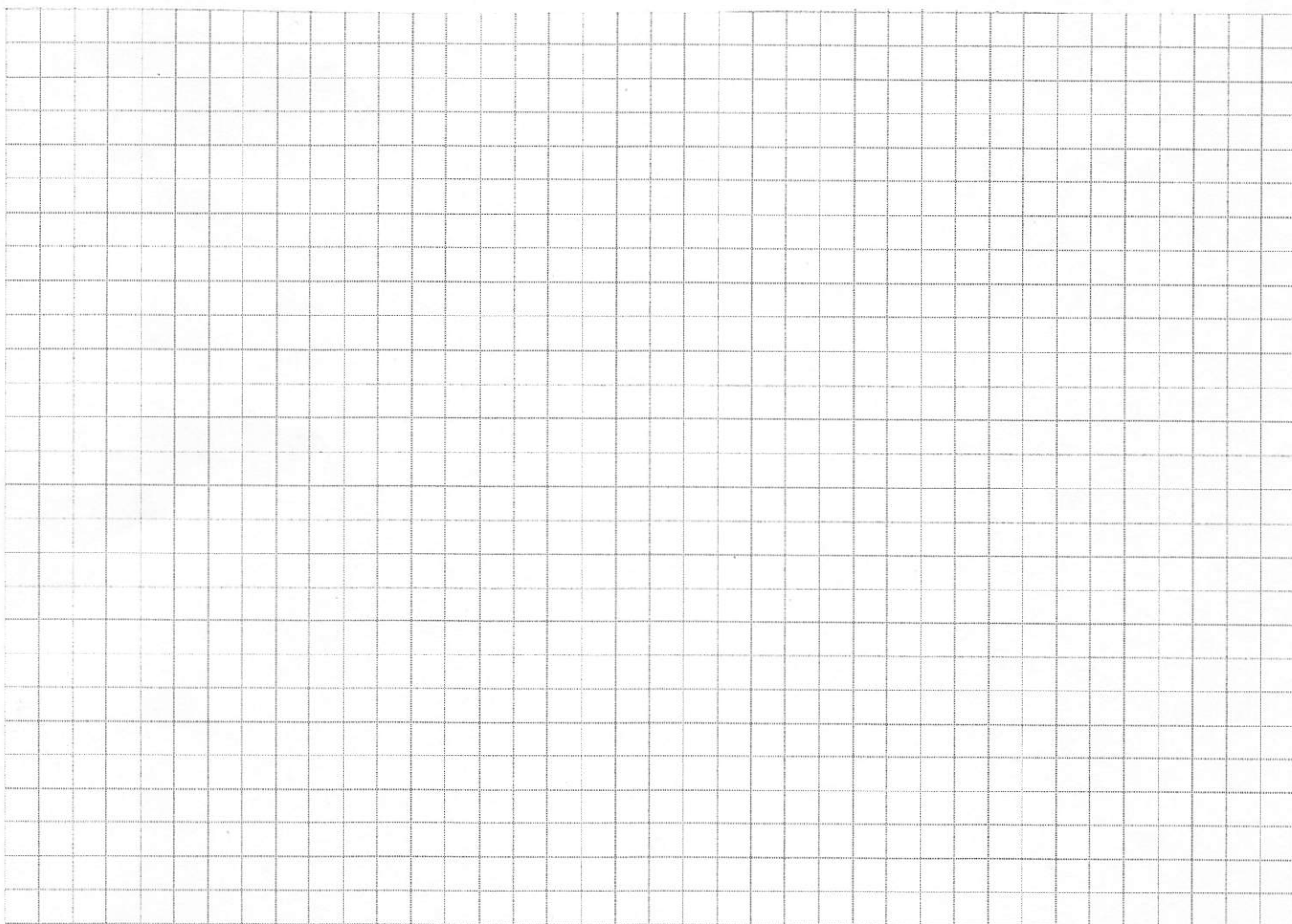
1. Use a ruler to draw each of the following vectors with a scale of $1\text{ cm} = 1\text{ N}$. Draw all four vectors on the same graph, and clearly label a, b, c, and d. (4)

- a. $(5\text{ N}, 0^\circ)$ b. $(7\text{ N}, 45^\circ)$ c. $(3\text{ N}, 90^\circ)$ d. $(6\text{ N}, 30^\circ)$



2. Use a ruler to draw each of the following vectors. State the scale you use for each. (4)

- a. $(40\text{ N}, 0^\circ)$ b. $(20\text{ N}, 60^\circ)$ c. $(100\text{ N}, 75^\circ)$ d. $(500\text{ N}, 90^\circ)$



3. Use a scaled drawing to find the components of each of the following vectors. State the scale you use for each. (8)

- a. (5 N, 45°) b. (8 N, 30°) c. (8 N, 60°) d. (100 N, 20°)

