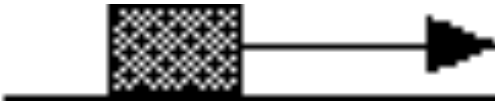

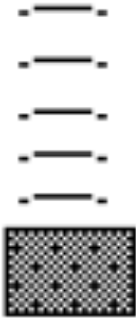



HS.P.F.25, HS.P.F.26, HS.P.F.29, HS.P.F.30, HS.P.F.33 Assessment

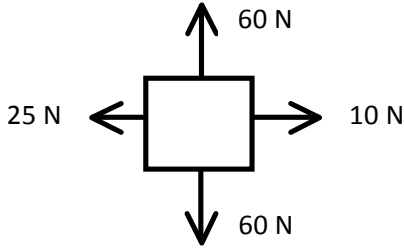

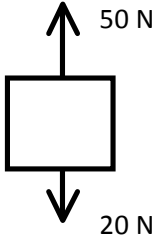

1. In each of the following situations, represent the object with a dot. Draw and label all the forces acting on the object.

| | | |
|-----------|--|--|
| HS.P.F.26 | I can draw a properly labeled free body diagram showing all forces acting on an object. | |
| HS.P.F.29 | My free body diagrams look qualitatively accurate (balanced or unbalanced in the correct directions, relative sizes of forces) | |

| | |
|---|--|
| <p>a. The object is traveling at a constant velocity to the right. It is pulled by a force parallel to the surface. The surface has friction.</p>  | <p>Free Body Diagram</p>  |
| <p>b. The object is falling at a constant velocity</p>  | <p>Free Body Diagram</p>  |

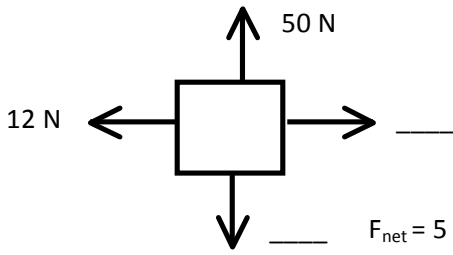
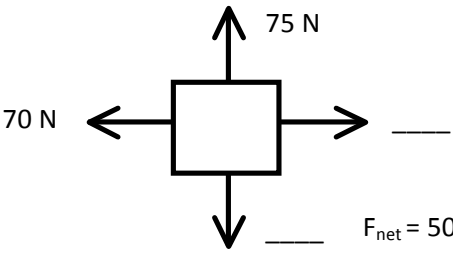
2. In each of the following situations draw a free body diagram that only represents the net force acting on the object.

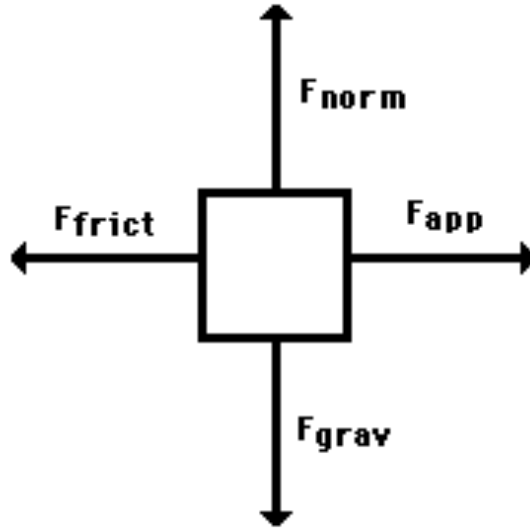
| | | |
|-----------|--|--|
| HS.P.F.25 | I can draw a force vector addition diagram for an object representing the net force on the object. | |
|-----------|--|--|

| | |
|---|---|
| <p>a.</p>  |  |
| <p>b.</p>  |  |

3. For each of the following, what are the unknown forces if you know the Net Force on these objects?

| | | |
|-----------|--|--|
| HS.P.F.33 | I can use Newton's first law to quantitatively determine the forces acting on an object moving at a constant velocity. | |
|-----------|--|--|

| |
|---|
| <p>19.</p>  <p style="text-align: right;">$F_{\text{net}} = 5 \text{ N right}$</p> |
| <p>20.</p>  <p style="text-align: right;">$F_{\text{net}} = 50 \text{ N up}$</p> |



4. Isaac and Galileo are arguing about the above Free Body Diagram where all the arrows are the same length. Isaac says that the object is at rest. Gaileo says the object is moving with a constant velocity to the right. Explain why both are correct.

| | | |
|-----------|---|--|
| HS.P.F.30 | I can relate balanced forces to an object's constant motion | |
|-----------|---|--|
