

Weight and Normal Force













I Hate Yellow Monkeys III ("Yellow monkeys are the worst." - Mr. Torpe)

7 8









Name _____

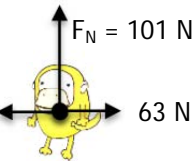
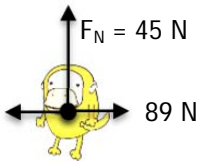
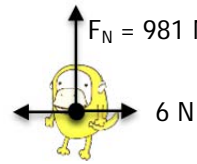
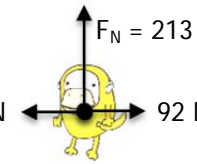
1 2 3 4 5 6

For the yellow monkeys below, find the weight. Use $g = -9.8 \text{ m/s}^2$.













1 $m = 15 \text{ kg}$  W=	2 $m = 28 \text{ kg}$  W=	3 $m = 34 \text{ kg}$  W=	4 $m = 12 \text{ kg}$  W=
5 $m = 50 \text{ kg}$  W=	6 $m = 65 \text{ kg}$  W=	7 $m = 39 \text{ kg}$  W=	8 $m = 46 \text{ kg}$  W=
9 $m = 5 \text{ kg}$  W=	10 $m = 231 \text{ kg}$  W=	11 $m = 845 \text{ kg}$  W=	12 $m = 0.56 \text{ kg}$  W=

For the following yellow monkeys, net force is zero. Find the weight and draw in the force! Again, use $g = -9.8 \text{ m/s}^2$.

13 $F_N = 28 \text{ N}$  $m = 2.86 \text{ kg}$ W=	14 $F_N = 40 \text{ N}$  $m = 4.08 \text{ kg}$ W=	15 $F_N = 12 \text{ N}$  $m = 1.22 \text{ kg}$ W=	16 $F_N = 49 \text{ N}$  $m = 5 \text{ kg}$ W=
17 $F_N = 23 \text{ N}$ 23 N ←  23 N $m = 2.35 \text{ kg}$ W=	18 $F_N = 42 \text{ N}$ 12 N ←  12 N $m = 4.29 \text{ kg}$ W=	19 $F_N = 88 \text{ N}$ 3 N ←  3 N $m = 8.98 \text{ kg}$ W=	20 $F_N = 99 \text{ N}$ 2 N ←  2 N $m = 10.1 \text{ kg}$ W=

<p>21</p>  <p>$F_N = 101 \text{ N}$</p> <p>63 N ← → 63 N</p> <p>$m = 10.3 \text{ kg}$</p> <p>$W =$</p>	<p>22</p>  <p>$F_N = 45 \text{ N}$</p> <p>89 N ← → 89 N</p> <p>$m = 2.35 \text{ kg}$</p> <p>$W =$</p>	<p>23</p>  <p>$F_N = 981 \text{ N}$</p> <p>6 N ← → 6 N</p> <p>$m = 100.1 \text{ kg}$</p> <p>$W =$</p>	<p>24</p>  <p>$F_N = 213 \text{ N}$</p> <p>92 N ← → 92 N</p> <p>$m = 21.7 \text{ kg}$</p> <p>$W =$</p>
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For the following yellow monkeys, the net force is NOT zero! Find both the weight and the normal force, and draw all forces on the monkey! Again, use $g = -9.8 \text{ m/s}^2$.







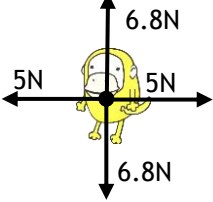
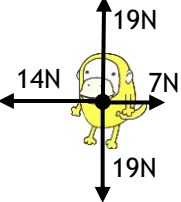
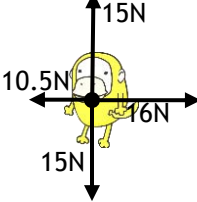
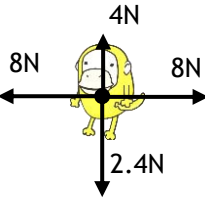
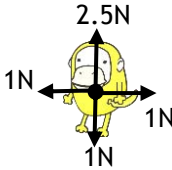
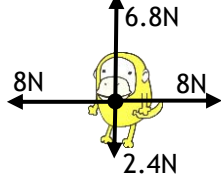
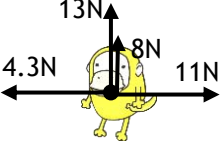
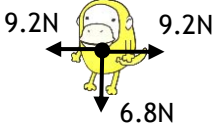
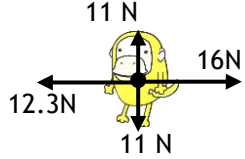
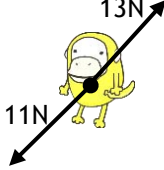
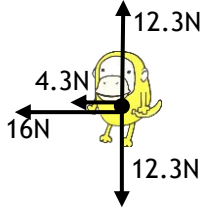
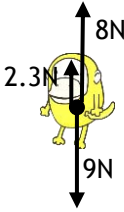
<p>49</p> <p>$m = 15 \text{ kg}$</p>  <p>$\Sigma F = 3 \text{ N down}$</p>	<p>50</p> <p>$m = 80 \text{ kg}$</p>  <p>$\Sigma F = 7 \text{ N left}$</p>	<p>51</p> <p>$m = 34 \text{ kg}$</p>  <p>$\Sigma F = 15 \text{ N up}$</p>	<p>52</p> <p>$m = 73 \text{ kg}$</p>  <p>$\Sigma F = 11 \text{ N down}$</p>
<p>53</p> <p>$m = 4 \text{ kg}$</p>  <p>$\Sigma F = 3 \text{ N down}$</p>	<p>54</p> <p>$m = 18 \text{ kg}$</p>  <p>$\Sigma F = 9 \text{ N down}$</p>	<p>55</p> <p>$m = 10 \text{ kg}$</p>  <p>$\Sigma F = 100 \text{ N down}$</p>	<p>56</p> <p>$m = 15 \text{ kg}$</p>  <p>$\Sigma F = 200 \text{ N left}$</p>
<p>57</p> <p>$m = 15 \text{ kg}$</p>  <p>$\Sigma F = 0 \text{ N}$</p>	<p>58</p> <p>$m = 5 \text{ kg}$</p>  <p>$\Sigma F = 1 \text{ N down}$</p>	<p>59</p> <p>$m = 33 \text{ kg}$</p>  <p>$\Sigma F = 50 \text{ N up}$</p>	<p>60</p> <p>$m = 2 \text{ kg}$</p>  <p>$\Sigma F = 7 \text{ N up}$</p>

Free Body Diagram Practice


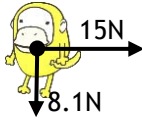

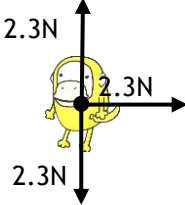
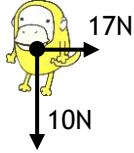
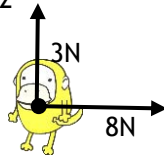
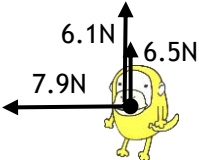
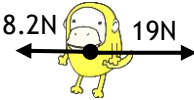

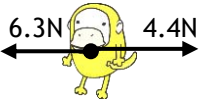
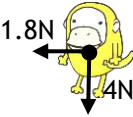

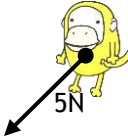
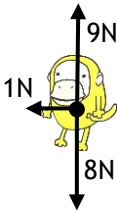
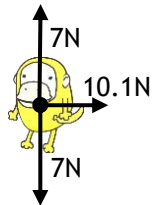
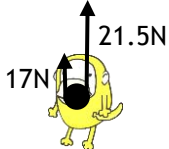
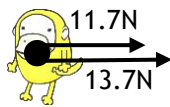
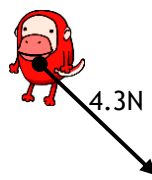
I Hate Yellow Monkeys

Name _____
1 2 3 4 5 6 7 8

For the yellow monkeys below, give the total force. Be sure to give both amount and direction!

	$\Sigma F =$ $m = 2 \text{ kg}$ $a =$		$\Sigma F =$ $m = 3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 5 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 2.3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1.2 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1.8 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 4 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1 \text{ kg}$ $a =$		$\Sigma F =$ $m = 3 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 10 \text{ kg}$ $a =$		$\Sigma F =$ $m = 8 \text{ kg}$ $a =$		$\Sigma F =$ $m = 6 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1 \text{ kg}$ $a =$		$\Sigma F =$ $m = 11 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 2 \text{ kg}$ $a =$		$\Sigma F =$ $m = 8 \text{ kg}$ $a =$		$\Sigma F =$ $m = 3.2 \text{ kg}$ $a =$

For the following yellow monkeys, draw in ONE force so that the acceleration matches the given.





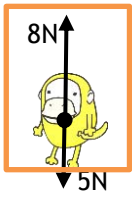
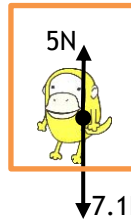
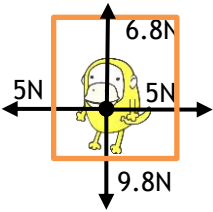
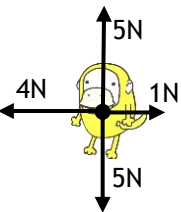
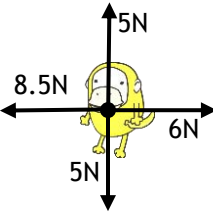
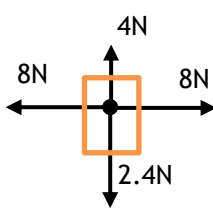
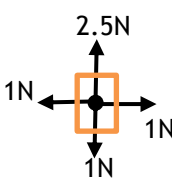
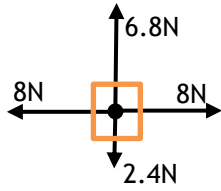
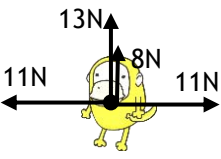
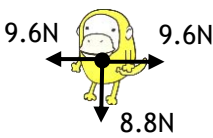
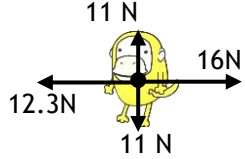
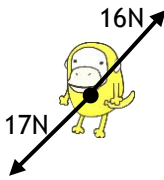
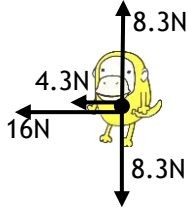
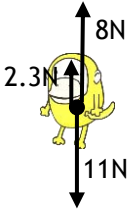
<p>26</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 5 \text{ m/s}^2 \uparrow$</p>	<p>27</p>  <p>$\Sigma F =$ $m = 2 \text{ kg}$ $a = 7.5 \text{ m/s}^2 \uparrow$</p>	<p>28</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 2 \text{ m/s}^2 \downarrow$</p>
<p>30</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = 3 \text{ m/s}^2 \leftarrow$</p>	<p>31</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = 3.4 \text{ m/s}^2 \rightarrow$</p>	<p>32</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = .75 \text{ m/s}^2 \uparrow$</p>
<p>34</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 4.2 \text{ m/s}^2 \uparrow$</p>	<p>35</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 1 \text{ m/s}^2 \rightarrow$</p>	<p>36</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .42 \text{ m/s}^2 \downarrow$</p>
<p>38</p>  <p>$\Sigma F =$ $m = 2 \text{ kg}$ $a = 3.4 \text{ m/s}^2 \leftarrow$</p>	<p>39</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = .45 \text{ m/s}^2 \leftarrow$</p>	<p>40</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = .825 \text{ m/s}^2 \downarrow$</p>
<p>42</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 5 \text{ m/s}^2 \nearrow$</p>	<p>43</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .2 \text{ m/s}^2 \uparrow$</p>	<p>44</p>  <p>$\Sigma F =$ $m = 6 \text{ kg}$ $a = .5 \text{ m/s}^2 \rightarrow$</p>
<p>46</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .2 \text{ m/s}^2 \uparrow$</p>	<p>47</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 10 \text{ m/s}^2 \rightarrow$</p>	<p>48</p>  <p>$\Sigma F =$ $m = 2 \text{ kg}$ $a = .65 \text{ m/s}^2 \searrow$</p>

Free Body Diagram Practice


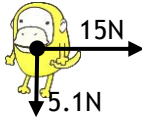

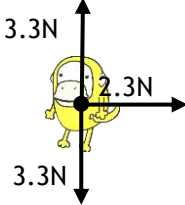
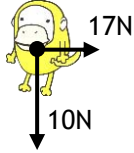
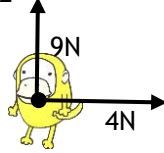
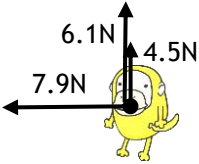
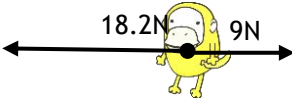

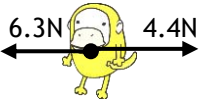
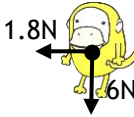

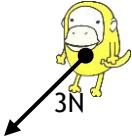
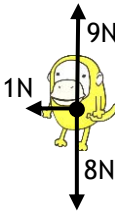
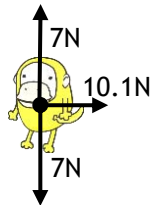
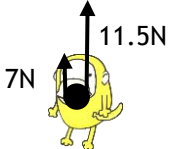
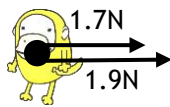
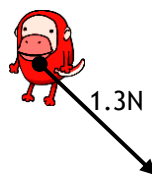
I Hate Yellow Monkeys

Name _____
1 2 3 4 5 6 7 8

For the yellow monkeys below, give the total force. Be sure to give both amount and direction!

	$\Sigma F =$ $m = 3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 2 \text{ kg}$ $a =$		$\Sigma F =$ $m = 2 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 2.3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1.2 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1.8 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 5 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1 \text{ kg}$ $a =$
<p>elevator</p> 	$\Sigma F =$ $m = 10 \text{ kg}$ $a =$	<p>elevator</p> 	$\Sigma F =$ $m = 8 \text{ kg}$ $a =$	<p>elevator</p> 	$\Sigma F =$ $m = 6 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 3 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1 \text{ kg}$ $a =$		$\Sigma F =$ $m = 6 \text{ kg}$ $a =$
	$\Sigma F =$ $m = 4 \text{ kg}$ $a =$		$\Sigma F =$ $m = 7 \text{ kg}$ $a =$		$\Sigma F =$ $m = 1.2 \text{ kg}$ $a =$

For the following yellow monkeys, draw in ONE force so that the acceleration matches the given.

<p>26</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 2 \text{ m/s}^2 \uparrow$</p>	<p>27</p>  <p>$\Sigma F =$ $m = 2 \text{ kg}$ $a = 7.5 \text{ m/s}^2 \rightarrow$</p>	<p>28</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 2 \text{ m/s}^2 \downarrow$</p>
<p>30</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = 4 \text{ m/s}^2 \leftarrow$</p>	<p>31</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = 3.4 \text{ m/s}^2 \rightarrow$</p>	<p>32</p>  <p>$\Sigma F =$ $m = 12 \text{ kg}$ $a = .75 \text{ m/s}^2 \uparrow$</p>
<p>34</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 4.2 \text{ m/s}^2 \uparrow$</p>	<p>35</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 1 \text{ m/s}^2 \rightarrow$</p>	<p>36</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .42 \text{ m/s}^2 \downarrow$</p>
<p>38</p>  <p>$\Sigma F =$ $m = 2 \text{ kg}$ $a = 6.4 \text{ m/s}^2 \rightarrow$</p>	<p>39</p>  <p>$\Sigma F =$ $m = 4 \text{ kg}$ $a = .45 \text{ m/s}^2 \leftarrow$</p>	<p>40</p>  <p>$\Sigma F =$ $m = 8 \text{ kg}$ $a = .825 \text{ m/s}^2 \downarrow$</p>
<p>42</p>  <p>$\Sigma F =$ $m = 1 \text{ kg}$ $a = 5 \text{ m/s}^2 \nearrow$</p>	<p>43</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .2 \text{ m/s}^2 \uparrow$</p>	<p>44</p>  <p>$\Sigma F =$ $m = 6 \text{ kg}$ $a = .5 \text{ m/s}^2 \rightarrow$</p>
<p>46</p>  <p>$\Sigma F =$ $m = 5 \text{ kg}$ $a = .2 \text{ m/s}^2 \uparrow$</p>	<p>47</p>  <p>$\Sigma F =$ $m = 3 \text{ kg}$ $a = 10 \text{ m/s}^2 \rightarrow$</p>	<p>48</p>  <p>$\Sigma F =$ $m = 12 \text{ kg}$ $a = .65 \text{ m/s}^2 \searrow$</p>