4.3 Quizlette - Friction (turn this in)   Name_____

Basic Friction:

(1-4) A 6.80 kg block of wood has a static coefficient of 0.340 and a kinetic of 0.170 between it and a desk.

1. Calculate the maximum force of static friction

2. Calculate the force of kinetic friction

3. If the block is at rest, and I exert a force of 27.0 N to make it move, does it slide?
Why or why not? Explain your answer with numbers and words.

4. If the block is at rest, and I exert a force of 20.0 N to make it move, does it slide?
Why or why not? Explain your answer with numbers and words.

Unknown acceleration: (Label all accelerations either **accel** - speeding up, or **decel** - slowing down)

(5-8) A 5.00 kg box of chocolates has a coefficient of static friction of 0.360, and a kinetic of 0.140 between it and the table. (label all your accelerations **accel** - speeding up, or **decel** - slowing down)

5. If the box is sliding to the right and there is a force of 11.0 N to the right, what is the acceleration of the box?

6. If the box is sliding to the right, and there is a force of 5.00 N to the right, what is the acceleration of the box?

7. If the box is sliding to the left, and there is a force of 23.0 N to the left, what is the acceleration of the box?

8. If the box is sliding to the left, and there is a force of 4.00 N to the right, what is the acceleration of the box?

Unknown force: (Use the convention that right is +, left is -)

(9-12) A 3.80 kg block of cheese has a coefficient of static friction of 0.830, and a kinetic of 0.250 between it and the table. (label all forces **left** or **right**)

9. What outside force would cause it to slide to the right, and accelerate to the right at 5.90 m/s/s?

10. What outside force would cause it to slide to the right and decelerate at 1.80 m/s/s?

11. What outside force would cause it to slide to the left and accelerate left at 2.70 m/s/s?

9) 31.7 N right, 10) 2.47 N right, 11) -19.6 N (left), 12) 9.69 N right

12. What outside force would make it slide to the left and decelerate at 5.00 m/s/s?

13. In the space below, draw a cartoon of Mr. Duggan and Mr. Osborn playing pin the tail on the Drumhiller while wearing ballerina outfits: (optional)