

Performance Task: 8.5H  
*Proportional & Non-Proportional Relationships: Shipping Plans*

Mrs. Mancini is starting a small business where she will ship her product direct to customers. She wants to make sure her shipping and handling charges are proportional to the amount of the customer’s purchase. Mrs. Mancini is trying to select among 3 different shipping plans:

**Plan A:** charges a flat rate of \$10 plus 5% of the order’s subtotal for orders over \$100;

**Plan B:** charges 15% of the order’s subtotal for shipping regardless of the order’s size;

**Plan C:** uses a graduated scale of \$10 shipping for orders totaling  $\leq$  \$100, \$20 for orders totaling  $\$100 < \text{total} \leq$  \$200, \$30 for orders totaling  $\$200 < \text{total} \leq$  \$300, etc.

Which plan(s) meet(s) Mrs. Mancini’s shipping needs based on the subtotal of the items to be shipped?

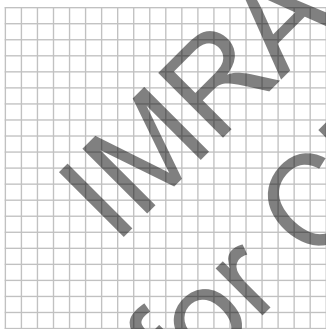
Mrs. Mancini also thinks she wants to purchase a shipping plan with a carrier whose charges are proportional to the weight of the box shipped. The companies and their charges are shown here.

Company A: \$0.57 per pound

Company B: \$0.46 per pound plus \$0.12 per pound over 20 pounds

Company C: \$250 per month for up to 30 boxes shipped and a total of no more than 400 combined pounds

Which plan(s) meet(s) Mrs. Mancini’s shipping needs based on the weight of the items being shipped? Justify your reasoning.



Procedural	0	1	2
Conceptual	0	1	2
Communication	0	1	2

Total points: \_\_\_\_\_

