

8.3 Patterns, relationships, and algebraic thinking: The student identifies proportional relationships in problem situations and solves problems. The student is expected to (B) estimate and find solutions to application problems involving percents and proportional relationships such as similarity and rates.

2003 9<sup>th</sup> Grade

17) A couple bought a house and calculated that they would pay 30% of their combined monthly income of \$5,569.75 toward the monthly mortgage payment on the house. Approximately how much will the couple pay for their monthly mortgage payment?

- A \$186
- B \$1,671
- C \$3,899
- D \$18,566

2003 9<sup>th</sup> Grade

35) A watch loses 3 minutes every 24 hours. How much time will it lose in 2 hours?

- A 1.6 seconds
- B 5 seconds
- C 15 seconds
- D 22.5 seconds

2004 9<sup>th</sup> Grade

11) Antonio works 40 hours per week at Electronics Warehouse. He earns \$6.50 per hour plus a 3% commission on the total dollar value of the service contracts he sells. If Antonio's hourly rate were increased by \$0.15 and his commission were raised to 5%, how much would he earn if he sold \$4000 worth of service contracts for the week?

- A \$126.50
- B \$206.65
- C \$466.00
- D \$580.00

2006 9<sup>th</sup> Grade

21) If a wheel spins at a rate of 36 revolutions per minute, how many revolutions per hour does the wheel spin?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

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0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

2003 10<sup>th</sup> Grade

6) The world's fastest flying insect is the dragonfly. It can fly 36 miles per hour. If a dragonfly flew in a straight path at this rate, what distance would it fly in 15 minutes?

- F 2 mi
- G 9 mi
- H 25 mi
- J 540 mi