Name: _____ Per: _____

Why Are Unicorns Healthier Than Dragons?

Cross out the letters above each correct answer (some answers are rounded). When I finish, write the remaining letters in the spaces at the bottom of the page.

1 The larger of two numbers is 8 more than twice the smaller. The sum of the numbers is 10 less than three times the larger. Find the numbers.

2 The price of a sweater is \$5 less than twice the price of a shirt. If four shirts and three sweaters cost \$275, find the price of each shirt and each sweater.

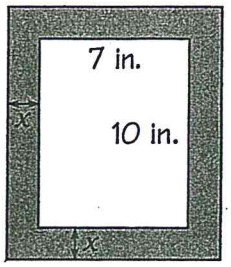
3 A shipment of computer monitors, some weighing 25 lb and the others weighing 40 lb each, has a total weight of 680 lb. If there are 20 monitors altogether, how many weigh 40 lb?

4 Joe Goodnuff had been eating on a square card table until he bought a new rectangular dining table. The new table is 2 ft longer and 1 ft wider than the card table. It has an area of 24.75 ft^2. How long was a side of his old square card table?

5 Hugh Betcha launched a model rocket with an initial speed of 88 feet per second. After how many seconds will the rocket be 40 feet high?
NOTE: The approximate height h (in feet) is modeled by: $h = -16t^2 + vt$, where t is the time in motion (in seconds) and v is the initial upward velocity (in feet per second).

6 A group of students goes out to lunch. If two have burritos and five have tacos, the bill will be \$19.50. If five have burritos and two have tacos, the bill will be \$22.50. Find the price of each taco and each burrito.

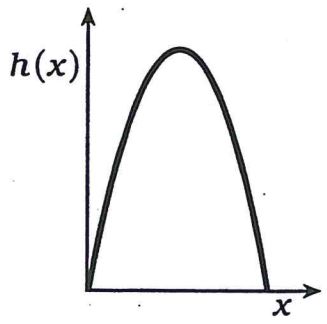
7 A 7 by 10 in. mirror was put in a frame and hung on the wall. The mirror and frame together cover an area of 130 $in.^2$. How wide is the frame?



8 Each of the "golden arches" at a McDonald's restaurant is in the shape of a parabola. Each arch is modeled by: $h(x) = -x^2 + 6x$, where $h(x)$ is the height of the arch (in feet) at a distance x (in feet) from one side.

a. Find the equation of the axis of symmetry.

b. How high is the arch at the axis of symmetry?



TH	IT	IS	EK	EY	D	ID	ON
8	4, –2	\$2.50, \$3.50	$x = 3$	8 × 15	$x = 2$	0.5 and 5	12 × 16
I	**TS**	**BE**	**MO**	**ST**	**OP**	**KE**	**EP**
3.5	0.8 and 4	1.5	1.8 in.	9 ft	\$29, \$53	3.52 × 7.72	12