

1. The equations  $5x + 2y = 48$  and  $3x + 2y = 32$  represent the money collected from school concert tickets sales during two class periods. If  $x$  represents the cost for each adult ticket and  $y$  represents the cost for each student ticket, what is the cost for each adult ticket? [adult ticket \$8]
2. Two small pitchers and one large pitcher can hold 8 cups of water. One large pitcher minus one small pitcher constitutes 2 cups of water. How many cups of water can each pitcher hold? [small 2, large 4]
3. A test has twenty questions worth 100 points. The test consists of True/False questions worth 3 points each and multiple choice questions worth 11 points each. How many multiple choice questions are on the test? [15 T/F and 5 M/C]
4. Margie is responsible for buying a week's supply of food and medication for the dogs and cats at a local shelter. The food and medication for each dog costs twice as much as those supplies for a cat. She needs to feed 164 cats and 24 dogs. Her budget is \$4240. How much can Margie spend on each dog for food and medication? [\$20 per cat, \$40 per dog]
5. Pure, or 24-karat, gold is very soft, so it is rarely used for jewellery. Most gold jewellery contains a mixture of gold and some cheaper metal(s) to make it harder. Suppose a jewellery maker has some 18-karat gold (75% pure) and 9-karat gold (37.5% pure), and they want to make a new piece of 15-karat gold (62.5% pure) with a mass of 150 grams. What mixture should they use? [100g of 18-karat, 50g of 9-karat]
6. When three numbers are added in pairs, the sums of the pairs are 22, 39, and 45. What are the three numbers? [8, 14, 31]

1. It took the high school hockey team 5 hours to travel to a tournament in Thunder Bay. They travelled by bus and plane a total distance of 1320 km. If the bus averaged 40 km/h and the plane averaged 600 km/h, determine the time they spent travelling by plane. [2 hours]
2. Two cruise ships are sailing toward each other from Caribbean islands that are 264 km apart. One ship travels 4 km faster than the other. If they both started at the same time, and meet after 6 hours, how fast is each ship travelling? [20 km/h, 24 km/h]
3. A hovercraft travels over flat land at 40 km/h and over rough water at 10 km/h. If it takes 5.75 h to travel 185 km, then how far did it travel over land? How far did it travel over water? [land 160km, water 15km]
4. Amy ran part of a 42 km marathon at an average speed of 10 km/h and walked the rest at an average speed of 6 km/h. She spent 1 h more time running than walking. How long did it take her to finish the marathon? [5 hours, 3h run, 2h walk]
5. A survey crew took a canoe up the river and back, paddling for 10 h. They went at 4 km/h going upstream and at 12 km/h going downstream. How far upstream did they go? [30km each way]
6. A small plane, flying in the same direction as the wind, travelled 600 km in 2 h. The return trip, flying against the wind, took 3 h. Find the speed of the plane and the wind. [plane 250 km/h, wind 50 km/h]
7. Martin left Kingston driving at 80 km/h on highway 401. Lesley followed 2 h later, driving in the same direction at 100 km/h. How far down the road will Lesley pass Martin? [800 km]