1. In her piggy bank, Maggie has $1.28. If she knows that she has the same number of pennies, nickels, and dimes in the piggy bank, how many total coins does she have in the piggy bank?
2. You save $35 each week. Right now, you have $100. You plan to save enough for a trip that costs $1,010. How many weeks from now will you have enough money for the trip?
3. For a school fair, suppose you had made twelve frames that you were planning on selling for $4.50 each. If you accidentally broke two of the frames, how much should you charge for each of the remaining frames so that you still earn the same amount of money?
4. Joni is watching her baby sister stack blocks and has discovered that there’s an actual pattern! How many blocks would the 7th tower have?



1. Jim likes to text message. The cell phone family plan his parents have allows for 250 text messages per month for $5.00 as part of the plan and additional text messages cost 15 cents per message both incoming and outgoing. What is the total number of messages Jim can send and receive for less than $10.00 if no one else in his family texts?
2. Tina and Jeff each bike 3 miles to school. Jeff bikes a steady $\frac{1}{4}$ of a mile per minute. Tina bikes a steady $\frac{1}{6}$ of a mile per minute. When Jeff arrives at school, how far does Tina still have left to bike?
3. The boy scouts are building bird houses. Michael buys screws and nails for the project. Screws go for 65 cents per pound and the nails go for 30 cents per pound. Michael bought 3 pounds of screws and he spent a total of $4.05. How many pounds of nails did he buy?
4. Dom has $120 in his bank account. He deposits $6 at the end of each week. Kim has $200 in her account. She withdraws $4 at the end of each week. At the end of how many weeks will they have the same amount in their accounts?

**BONUS PROBLEMS**

1. The sum of five consecutive whole numbers is 45. What is the least of the five numbers?
2. Grandpa Tom said, “My age is four times my grandson’s age. My son is 11 years younger than my daughter and my daughter is 30 years older than my grandson. The total of our ages is 196 years.” How old is Grandpa Tom?
3. A fisherman sold some big fish at $4 each and twice as many small fish at $1 each. He received a total of $72 for the big and small fish. How many big fish did he sell?
4. Harry Potter is practicing catching the Golden Snitch. Harry tosses the snitch up into the air and it flies away from him at a rate of 800 feet per minute. Harry waits for five minutes, then flies after it at a rate of 1000 feet per minute. Assuming the snitch flies in a straight line away from Harry, how long will it take before he can catch up to and capture the snitch?

**Solutions**

*Note: There are many acceptable strategies to solving each problem. This sheet shows just one strategy.*

1. Let C be the number of pennies.

Let C be the number of nickels (same as number of pennies).

Let C be the number of dimes (same as number of pennies).

(C × $0.01) + (C × $0.05) + (C × $0.10) = $1.28

C × ($0.01 + $0.05 + $0.10) = $1.28

C × $0.16 = $1.28

C × 0.16 ÷ 0.16 = 1.28 ÷ 0.16

C = 8

So 8 pennies, 8 nickels, and 8 dimes.

**Answer: 24 coins**

1. Let W be the number of weeks it will take you to save up for the trip.

 (W × $35) + $100 = $1010

(W × 35) + 100 – 100 = 1010 – 100

W × 35 = 910

W × 35 ÷ 35 = 910 ÷ 35

W = 26

**Answer: 26 weeks**

1. Let P be the price that you should sell the frames for.

P × 10 = $4.50 × 12

P × 10 = 54

P × 10 ÷ 10 = 54 ÷ 10

P = 5.4

**Answer: $5.40**

1. Let T be the tower number (e.g., 1, 2, 3, 4, etc.).

Let B be the number of blocks in that tower.

B = (number of horizontal blocks) + (number of vertical blocks) - 1

(Minus one at the end, so that we don’t end up counting the corner block twice.)

B = (T) + (2 × T - 1) – 1

T = 7, because we want to know the number of blocks in the seventh tower.

B = 7 + (2 × 7 – 1) – 1

B = 19

**Answer: 19 blocks**

**Solutions (cont.)**

1. Let M be the total number of messages Jim can send.

((M – 250) × $0.15) + $5.00 = $10.00

((M – 250) × 0.15) + 5 – 5 = 10 – 5

((M – 250) × 0.15) = 5

(M – 250) × 0.15 ÷ 0.15 = 5 ÷ 0.15

M – 250 = 33.33

M – 250 + 250 = 33.33 + 250

M = 283.333. Can’t send a fraction of a text message, so …

**Answer: 283 text messages**

1. Let T be the number of miles Tina *has biked* when Jeff reaches the school.

(Number of *minutes* Tina has biked) = (Number of *minutes* Jeff has biked)

T $÷$ $\frac{1}{6}$ = 3 miles $÷$ $\frac{1}{4}$

T $÷$ $\frac{1}{6}$ = 12

T $÷$ $\frac{1}{6}$ $× \frac{1}{6} $= 12 $× \frac{1}{6} $

T = 2 miles

**Answer: 1 mile left to go**

1. Let N be the number of pounds of nails Michael bought.

(N × $0.30) + (3 pounds of screws × $0.65) = $4.05

(N × 0.30) + 1.95 = 4.05

(N × 0.30) + 1.95 – 1.95 = 4.05 – 1.95

(N × 0.30) = 2.10

N × 0.30 ÷ 0.30 = 2.10 ÷ 0.30

N = 7

**Answer: 7 pounds of nails**

1. Let W be the number of weeks

120 + 6W = 200 – 4W

120 + 6W + 4W = 200 – 4W + 4W

120 + 10W = 200

120 + 10W – 120 = 200 – 120

10W = 80

W = 8

**Answer: 8 weeks**

1. Let the least of the numbers = x. Then x + (x + 1) + (x + 2) + (x + 3) + (x + 4) = 45; 5x + 10 = 45; 5x = 35, so x = 7.

**Answer: 7**

1. Let the grandson’s age = N. Then the daughter’s age = N + 30, the Son’s age = N + 19 and Grandpa’s age is 4N. All the ages added together (N + N + 30 + N + 19 + 4N) = 196. Solving for N, 7N + 49 = 196; 7N = 147, N = 21. Since Grandpa Tom’s age = 4N, he is 84 years old.

**Answer: 84 years old**

1. Let the number of big fish sold = x, so the number of small fish sold will be 2x. $4 times the number of big fish sold + $1 times the number of small fish sold = $72. 4x + 2x = 72; 6x = 72, x = 12.

**Answer: 12 big fish**

1. Let t = how long it will take Harry to capture the snitch. Then t + 5 = how long the snitch will have flown. Since they will have both flown the same distance by the time Harry catches the snitch, and distance = rate x time, we can say: 1000t = 800(t + 5). Solving for t: 1000t = 800t + 4000; 200t = 4000; t = 20 minutes.

**Answer: 20 minutes**