Math 10

Lesson 5-2 Answers

**Lesson Questions**

**Question 1**





The solution is *x* = 3 and *y* = –1

**Question 2**





The solution is *n* = 16.7 and *m* = 13.3

**Question 3**

let *x* be the amount invested at 3.5%

We have 2 equations



let *y* be the amount invested at 4.5%





$800 was invested at 3.5% and $1000 was invested at 4.5%

**Question 4**

We have 2 equations

let *x* be the short piece



let *y* be the long piece





The lengths of the pieces are 32 and 50.

**Assignment**

1. a) *x* = 16, *y* = –7 b) *x* = 6, *y* = 7 c) *x* = –1, *y* = –8 d) *x* = 1, *y* = 4

2. a) *x* = –2, *y* = 5 b) *x* = –2, *y* = 3 c) *x* = 3, *y* = 5 d) *x* = 1, *y* = 4

3. Variables may differ.

2*l* + 2*w* = 540 and *l* – *w* = 90

Length: 180 cm; width: 90 cm

4. Variables may differ.

*s* + *a* = 45 and 0.8*s* + 0.6*a* = 31

20 students and 25 adults

5. Variables may differ.

*x* + *y* = 11 and 4*x* + 5*y* = 47

8 groups of 4 and 3 groups of 5

6. Variables may differ.

*p* + *a* = 85 and 0.6*p* + 0.4*a* = 38

20 people masks; 65 animal masks

7. Variables may differ.

0.80*A* + 0.92*B* = 63 and *A* + *B* = 75

Part A: 50 marks; part B: 25 marks

8. Variables may differ.

*x* + *y* = 5000 and 0.025*x* + 0.0375*y* = 162.50

Two thousand dollars in the 2.5% bond; $3000 in the 3.75% bond

9. Variables may differ.

76*s* + 49*d* = 474.25 and 54*s* + 37*d* = 346.25

Single-scoop cone: $3.50; double-scoop cone: $4.25

10. Joel would have to work 15 weekends before he earns the same amount as Sue.

11. a) 16 km/h

b) 40 km

12. Rate of climb: 200 m/min; rate of descent: –200 m/min

13. Some advantages of solving a linear system using the substitution strategy rather than graphing:

a. Easy to do.

b. Yields exact values.