MPC 099 Name_____

Module D Review

Solve

1) $xy = 56$
$(x-2)(y+1) = 45$

2) $xy = 24$
$(x+2)(y-1) = 24$

Solve each problem by clearly setting up your equation(s) and solving.

3) A rectangle has a length that is 3 inches longer than the width. If the area is 108 in^2, what are the dimensions?

4) One side of a rectangle is three times the other. What is the length of the longer side is the area is 75 ft^2 ?

5) The perimeter of a rectangle is 22 yd. The area is 28 yd^2. What are the dimensions of the rectangle?

6) The area of a rectangle is $54 yd^2$. The perimeter is 30 yd. What are the dimensions of the rectangle?

7) When the sides of a square are increased by 6 the area is multiplied by 4. What is the length of the side of the original square?

8) The length of a rectangle is three more than the width. If each side is increased by three the area is multiplied by three. Find the size of the original rectangle.

9) A field is 20 ft by 50 feet. A farmer wants to increase the area by 80% by cultivating a ring of uniform width around the field. How wide of a ring should he cultivate?

10) A man is cutting the grass on a large field, starting on the outside in a spiral pattern towards the center. If the field is 40 ft by 25 ft and by noon he has 45% of the field left, how wide of a strip has he cut?

11) A man bought a number of books for $48. He realized that for the same money he could also have bought 8 more books for $3 less per book. How many books did he buy?

12) A man bought several chickens for $40. After three died he sold the rest at a profit of $4 per chicken. His total profit was $5. How many did he buy at first?

13) A man went on a 300 mile trip. The next day his return trip was slowed by traffic. Driving 10 mph slower his trip took 1 hour longer. How fast did he drive each direction?

14) After a long 48 mile bike ride, John Peterson realized that if he had gone 6 mph faster, his bike ride would have been 4 hours shorter. How fast did he ride?

15) A group of scouts rowed upstream 24 miles and then returned to their campsite. If the trip took 7 hours and the stream flowed at 1 mph, how fast did the scouts row?

16) A plane flies against a 20 mph wind for a distance of 800 miles. Fortunately, the way back he was flying with the wind and the trip took 1 hour less. At what rate would the plane fly if there was no wind?

17) Alice takes 5 days to do a job. If Brian works with Alice they can get the job done in 4 days. How long would it take Brian working alone?

18) Carl takes 1 hour longer to paint a room than Debbie. Together they can paint it in $1\frac{1}{5}$ hours. How long will it take each working alone?

19) Eddie can clean a room in three hours less time than Frank. Together it takes them 2 hours. How long will it take each working alone?

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Module D Review

Solve

1) $xy = 56$
$(x-2)(y+1) = 45$

(7,8) and (-16,-3.5)

2) $xy = 24$
$(x+2)(y-1) = 24$

(6,4) and (-8,-3)

Solve each problem by clearly setting up your equation(s) and solving.

3) A rectangle has a length that is 3 inches longer than the width. If the area is 108 in^2, what are the dimensions?

9 in x 12 in

4) One side of a rectangle is three times the other. What is the length of the longer side is the area is 75 ft^2 ?

15 ft

5) The perimeter of a rectangle is 22 yd. The area is 28 yd^2. What are the dimensions of the rectangle?

4 yd x 7 yd

6) The area of a rectangle is 54yd^2. The perimeter is 30 yd. What are the dimensions of the rectangle?

9 yd x 6 yd

7) When the sides of a square are increased by 6 the area is multiplied by 4. What is the length of the side of the original square?

6

8) The length of a rectangle is three more than the width. If each side is increased by three the area is multiplied by three. Find the size of the original rectangle.

3 x 6

9) A field is 20 ft by 50 feet. A farmer wants to increase the area by 80% by cultivating a ring of uniform width around the field. How wide of a ring should he cultivate?

5 ft

10) A man is cutting the grass on a large field, starting on the outside in a spiral pattern towards the center. If the field is 40 ft by 25 ft and by noon he has 45% of the field left, how wide of a strip has he cut?

5 ft

11) A man bought a number of books for $48. He realized that for the same money he could also have bought 8 more books for $3 less per book. How many books did he buy?

8 books

12) A man bought several chickens for $40. After three died he sold the rest at a profit of $4 per chicken. His total profit was $5. How many did he buy at first?

8 chickens

13) A man went on a 300 mile trip. The next day his return trip was slowed by traffic. Driving 10 mph slower his trip took 1 hour longer. How fast did he drive each direction?

60 mph and 50 mph

14) After a long 48 mile bike ride, John Peterson realized that if he had gone 6 mph faster, his bike ride would have been 4 hours shorter. How fast did he ride?

6 mph

15) A group of scouts rowed upstream 24 miles and then returned to their campsite. If the trip took 7 hours and the stream flowed at 1 mph, how fast did the scouts row?

7 mph

16) A plane flies against a 20 mph wind for a distance of 800 miles. Fortunately, the way back he was flying with the wind and the trip took 1 hour less. At what rate would the plane fly if there was no wind?

180 mph

17) Alice takes 5 days to do a job. If Brian works with Alice they can get the job done in 4 days. How long would it take Brian working alone?

20 days

18) Carl takes 1 hour longer to paint a room than Debbie. Together they can paint it in $1\frac{1}{5}$ hours. How long will it take each working alone?

Carl 3 hr, Debbie 2 hr

19) Eddie can clean a room in three hours less time than Frank. Together it takes them 2 hours. How long will it take each working alone?

Eddie 3 hr, Frank 6 hr