Question 1

x and y vary directly. Use the given values to write an equation that relates x and y: x = 12 and y = 18

Answer A: $y=\frac{26}{x}$

Question 2

x and y vary directly. Use the given values to write an equation the relates x and y: x = 24 and y = 20

Answer B: 3x + 1

Question 3:

x and y vary inversely. Write and equation that relates x and y for the given values: x = 1.5,

y = 50

Answer C: ±3

Question 4:

x and y vary inversely. Write an equations that relates x and y when

x = 65 and y = $\frac{2}{5}$.

Answer D: $\frac{-x^{3}-4x^{2}+11x+37}{(x+3)(x-3)(x+4)}$

Question 5:

Simplify: $\frac{5x+4}{15x^{2}+12x}$

Answer E:

$$y= \frac{5}{6}x$$

Question 6:

Simplify: $\frac{x^{2}+4x-32}{x^{3}+9x^{2}+8x}$

Answer F:

$$\frac{3x^{2}-2x-42}{7(x-7)}$$

Question 7:

For what values is the rational expression $\frac{x+4}{x^{2}+6x+8}$ undefined?

Answer G: $\frac{1}{3x}$

Question 8:

For what values is the rational expression $\frac{3x+9}{x^{2}-9}$ undefined?

Answer H: $\frac{-x+2}{(x+8)}$

Question 9:

Simplify:

 $\frac{2x}{x^{2}+9x+20}∙\frac{x^{2}-4x-32}{3x^{2}}$

Answer I: $y=\frac{75}{x}$

Question 10:

Simplify:

 $\frac{x^{2}+5x-24}{x^{2}-2x-8}÷\frac{4x^{2}+32 x}{2x+4}$

Answer J: $-4, -2$

Question 11:

Simplify: $\frac{2x-1}{x-7}+ \frac{3x +5}{7}$

Answer K:

 $\frac{3x^{2}-2x-11}{(x+1)(x-2)}$

Question 12:

Simplify: $\frac{8x-3}{x+8}- \frac{9x-5}{x+8}$

Answer L:

 $y=\frac{3}{2}x$

Question 13:

Simplify: $\frac{x+3}{x +1}+ \frac{2x-5}{x-2}$

Answer M:

 $\frac{x-3}{2x(x-4)}$

Question 14:

Simplify: $\frac{x-2}{x^{2}-9}- \frac{x+5}{x+4}$

Answer N:

 $\frac{x-4}{x(x+1)}$

Question 15:

The area of a rectangle is 6x2 – 13x – 5 and the width is 2x – 5. Find the length.

Answer O:

 $\frac{2(x-8)}{3x(x+5)}$

Key:

1. D

2. O

3. H

4. N

5. B

6. K

7. E

8. L

9. C

10. G

11. M

12. A

13. J

14. F

15. I