

Warm Up Questions

1 $2(x - 3) - 2(2x - 3) = 14$

2 $\frac{1}{3}(4x - 1) = 3x + 3$

3 $\frac{1}{4}(4x - 2) = \frac{3}{2}(x + 1)$

4 $\frac{2}{3}(2x - 1) = \frac{1}{2}(3x + 2) + 2$



- 5 Discount Taxi charges \$3.00 as a flat rate and an additional \$0.50 per kilometer. Gorman's Taxi charges \$1.00 per kilometer. When will the two companies cost the same? When is it best to chose Gorman's/ Discount?

1

$$2(x - 3) - 2(2x - 3) = 14$$

$$\begin{aligned} 2x - 6 - 4x + 6 &= 14 \\ -2x &= 14 \\ \underline{-2} \quad \underline{-2} & \\ x &= -7 \end{aligned}$$

2

$$\frac{1}{3}(4x - 1) = 3x + 3$$
$$\frac{1}{3}(4x - 1) = 3x + 3$$
$$1(4x - 1) = 9x + 9$$
$$4x - 1 = 9x + 9$$
$$4x = 9x + 9 + 1$$
$$4x = 9x + 10$$
$$4x - 9x = 10$$
$$-5x = 10$$
$$x = -2$$

$$\textcircled{3} \quad \frac{1}{4}(4x - 2) = \frac{3}{2}(x + 1)$$

$$\frac{\cancel{1}^x}{\cancel{4}}(4x - 2) = \frac{\cancel{3}^x}{2}(x + 1)$$

$$1(4x - 2) = \frac{12}{2}(x + 1)$$

$$4x - 2 = 6(x + 1)$$

$$4x - 2 = 6x + 6$$

$$4x = 6x + 6 + 2$$

$$4x = 6x + 8$$

$$4x - 6x = 8$$

$$\underline{-2x = 8}$$

$$\underline{x = -4}$$

$$X = \#$$

4

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

$$\frac{2^6}{3}(2x - 1) = \frac{1^6}{2}(3x + 2) + 2^6$$

$$\frac{12}{3}(2x - 1) = \frac{6}{2}(3x + 2) + 12$$

$$4(2x - 1) = 3(3x + 2) + 12$$

$$8x - 4 = 9x + 6 + 12$$

$$8x - 4 = 9x + 18$$

$$8x = 9x + 18 + 4$$

$$8x = 9x + 22$$

$$8x - 9x = 22$$

$$-1x = 22$$

$$x = -22$$

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Discount

$$3 + 0.50x$$

Gorman's

$$1.00x$$

$$3 + 0.50x = 1.00x$$

$$0.50x = 1.00x - 3$$

$$-1.00x + 0.50x = -3$$

$$\frac{-0.50x}{-0.5} = \frac{-3}{-0.5}$$

$$x = 6$$

$x = \#$

Gorman's \rightarrow Less than 6 kilometers
 Discount \rightarrow Greater than 6 kilometers

