Module 15 Test Review. Show all work on lined paper.

Solve each equation. Write your answer as a fraction in simplest form where necessary.

1. $-5x + 3 = 4x$
2. $2c + 4c = 2c + 1$
3. $\frac{1}{3}x + 4 = -\frac{1}{3}x - 2$
4. $8x - 9 = 4x + 3$
5. $\frac{1}{2}x - 4 = -x + 7$
6. $4(x - 2) = -3(x - 1)$
7. $\frac{2}{3}(x + 4) = \frac{1}{2}(x - 2) - 4$
8. $\frac{1}{9} + \frac{1}{3}k = -\frac{1}{3} + \frac{2}{9}k$
9. $1.15 - .5k = -.25 + .2k$
10. $9x + 2 - 4x = -2(x - 4) + 3x - 7$

Write and solve an equation.

11. A pizza company charges $12 for a large pizza plus $9 delivery. Another Pizza company charges $15 for a large pizza, but delivery is free. How many pizza would you have to order for the cost of the companies to be the same?
12. Three less than 4 times a number is 27 more than the number. What is the number?
13. Alec's auto store charges $5 per pint of oil plus $10 for the filter. Briana's store charges $6 per pint but the filter is only $5. How many pints of oil would you need to purchase for the cost of changing your oil and filter to be the same at each store?
14. Tommy is renting a moving van. Lorena's company charges a rate of $90 per hour plus a $50 truck fee. Nicole's company charges a $70 per hour fee plus a $90 truck fee. For what number of hours of rental is the cost for the two companies the same?
15. Twenty more than 4 times Jack's age is the same as 6 times his age. How old is Jack?

Answers.

1. 1/3
2. ¼
3. -9
4. 3
5. 22/3
6. 11/7
7. -46
8. -4
9. 2
10. -1/4
11. 3
12. 10
13. 5
14. 2
15. 10

Module 15 Test Review

1. $-5x+3=4x$

$+5x \quad +5x$

$\frac{3}{9}=\frac{9x}{9}$

$\frac{1}{3}=x$

2. $2c+4c=2c+1$

$6c=2c+1$

$-2c \quad -2c$

$\frac{4c}{4}=\frac{1}{4}$

$c=\frac{1}{4}$

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

$x+12=-x-6$

$+x \quad +x$

$2x+12=-6$

$-12 \quad -12$

$\frac{2x}{2}=\frac{-18}{2}$

$x=-9$

4. $8x-9=4x+3$

$-4x \quad -4x$

$4x-9=3$

$+9 \quad +9$

$\frac{4x}{4}=\frac{12}{4}$

$x=3$

5. $2\left(\frac{1}{2}x - 4 = -x + 7\right)$

$x - 8 = -2x + 14$

$+2x \quad +2x$

$3x - 8 = 14$

$+8 \quad +8$

$3x = 22$

$x = \frac{22}{3}$ or $x = 7\frac{1}{3}$

6. $4(x-2) = -3(x-1)$

$4x - 8 = -3x + 3$

$+3x \quad +3x$

$7x - 8 = 3$

$+8 \quad +8$

$7x = 11$

$\frac{7x}{7} = \frac{11}{7}$

$x = \frac{11}{7}$

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

$\frac{2}{3}x + \frac{8}{3} = \frac{1}{2}x - 1 - 4$

$6\left(\frac{2}{3}x + \frac{8}{3} = \frac{1}{2}x - 5\right)$

$4x + 16 = 3x - 30$

$-3x \quad -3x$

$x + 16 = -30$

$-16 \quad -16$

$x = -46$

8. $\left(\frac{1}{9}+\frac{1}{3}k=-\frac{1}{3}+\frac{2}{9}k\right)$ 9

$1+3k=-3+2k$

$-2k \qquad -2k$

$1+k=-3$

$-1 \qquad -1$

$k=-4$

100

9. $(1.15-.5k=-.25+.2k)$

$115-50k=-25+20k$

$+50k \qquad +50k$

$115=-25+70k$

$+25 \quad +25$

$\frac{140}{70}=\frac{70k}{70}$

$2=k$

10. $9x+2-4x=-2(x-4)+3x-7$

$5x+2=-2x+8+3x-7$

$5x+2=x+1$

$-x \qquad -x$

$4x+2=1$

$-2 \quad -2$

$\frac{4x}{4}=\frac{-1}{4}$

$x=-\frac{1}{4}$

11. $12x + 9 = 15x$

$-12x \qquad -12x$

$9 = 3x$

$\frac{9}{3} = \frac{3x}{3}$

3 pizzas = x

12. $4n - 3 = 27 + n$

$-n \qquad -n$

$3n - 3 = 27$

$+3 \quad +3$

$\frac{3n}{3} = \frac{30}{3}$

$n = 10$

13. $5x + 10 = 6x + 5$

$-5x \qquad -5x$

$10 = x + 5$

$-5 \quad -5$

5 pints = x

14. $90x + 50 = 70x + 90$

$-70x \qquad -70x$

$20x + 50 = 90$

$-50 \quad -50$

$\frac{20x}{20} = \frac{40}{20}$

x = 2 miles

15. $4j + 20 = 6j$

$-4j \qquad -4j$

$20 = 2j$

$\frac{20}{2} = \frac{2j}{2}$

$10 = j$