MATH 8 Pre-Quiz - KEY

1. a) 7 b) 13 c) 49 d) 1.
e) $-\frac{1}{3}$ f) $\frac{2}{5}$ g) 16.

11

2. a) $2\frac{1}{3} - 4\frac{1}{8}$

$= \frac{7}{3} - \frac{33}{8}$

$= \frac{56}{24} - \frac{99}{24}$

$= -\frac{43}{24} = \boxed{-1\frac{19}{24}}$

b) $-\frac{4}{3} \div 1\frac{1}{8}$

$= -\frac{4}{3} \div \frac{9}{8}$

$= -\frac{4}{3} \times \frac{8}{9}$

$= -\frac{32}{27} = \boxed{-1\frac{5}{27}}$

c) $1 + 2 + 3 + 4 \times 0$

$= 1 + 2 + 3 + 0$

$= \boxed{6}$

d) $(-5) \cdot 6 \times 7 + (8 - 9) \times 10$

$= -5 - 42 + (-1) \times 10$

$= -5 - 42 - 10$

$= \boxed{-57}$

e) $\frac{9 \times 2 + 2 \times (-3)}{4 \times (-6)}$

$= \frac{18 + (-6)}{-24}$

$= \frac{12}{-24} = \boxed{-\frac{1}{2}}$

f) $\frac{2}{3} + \frac{5}{8}$

$= \frac{16}{24} + \frac{15}{24}$

$= \frac{31}{24} = \boxed{1\frac{7}{24}}$

g) $\frac{1}{2} + \frac{2}{3} + \frac{3}{4}$

$= \frac{6}{12} + \frac{8}{12} + \frac{9}{12}$

$= \frac{23}{12} = \boxed{1\frac{11}{12}}$

h) $1\frac{2}{3} + \frac{1 \times (-2) - 3}{4 \times (5 - 6) + 7}$

$= \frac{5}{3} + \frac{-2 - 3}{4 \times (-1) + 7}$

$= \frac{5}{3} + \frac{-5}{-4 + 7}$

$= \frac{5}{3} + \frac{-5}{3} = \boxed{\emptyset}$

i) 70% of 200

$= 200 \times 0.7$

$= \boxed{140}$

j) $\dfrac{(-2)\times(-2)\times(-2)\times(-2)}{-(2\times2\times2\times2)}$

$= \dfrac{16}{-16} = -1.$

-11-

3. a) $-6x = 30$

$x = \dfrac{30}{-6} = \boxed{-5}$

b) $3x + 7 = -11$ ↓ -7

$3x = -18$ ↓ $\div 3$

$x = \dfrac{-18}{3}$

$\boxed{x = -6}$

c) $\dfrac{x}{4} + 1 = 9$ ↓ -1

$\dfrac{x}{4} = 8$ ↓ $\times 4$

$\boxed{x = 32}$

d) $4(x+1) = 17$ ↓ dist

$4x + 4 = 17$ ↓ -4

$4x = 13$ ↓ $\div 4$

$x = \dfrac{13}{4}$

$\boxed{x = 3\frac{1}{4}}$

e) $-6x + 8 = -16$ ↓ -8

$-6x = -24$ ↓ $\div(-6)$

$\boxed{x = +4}$

f) $-5(x-3) = 25$ ↓ dist

$-5x + 15 = 25$ ↓ -15

$-5x = 10$ ↓ $\div(+5)$

$\boxed{x = -2}$

g) $3(x - \frac{1}{2}) = 4$ ↓ dist.

$3x - \dfrac{3}{2} = 4$ ↓ $+\dfrac{3}{2}$

$3x = 4 + \dfrac{3}{2}$

$= \dfrac{8}{2} + \dfrac{3}{2} = \dfrac{11}{2}$ ↓ $\div 3$

$x = \dfrac{11}{6} = \boxed{1\frac{5}{6}}$

h) $\dfrac{2}{5}x + \dfrac{2}{7} = 1$ ↓ $-\dfrac{2}{7}$

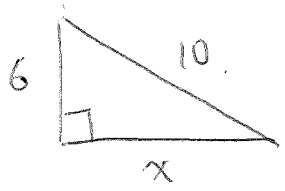
$\dfrac{2}{5}x = \dfrac{5}{7}$ ↓ $\div \dfrac{2}{5}$

$x = \dfrac{5}{7} \div \dfrac{2}{5}$

$= \dfrac{5}{7} \times \dfrac{5}{2}$

$= \dfrac{25}{14} = \boxed{1\frac{11}{14}}$

4. a)



$6^2 + x^2 = 10^2$

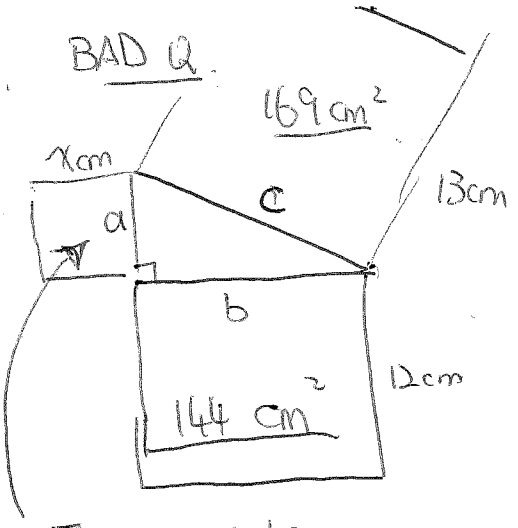
$x^2 = 10^2 - 6^2$

$= 100 - 36$

$= 64.$

$x = \sqrt{64} = \boxed{8.}$

b) BAD Q.



This must be a square in order to solve the Q!

~~$b = 144 \div 12 = 12$ cm~~ $b = 144 \div 12 = 12$

~~$c = 169 \div 13$~~ $c = 169 \div 13 = 13.$

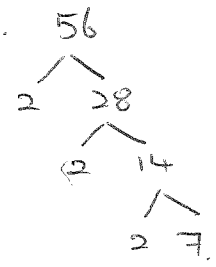
$a^2 = c^2 - b^2$

$= 13^2 - 12^2$

$= 169 - 144 = 25.$

$x = a = \sqrt{25} = \boxed{5}$

5. a)



Pairs: 1 56

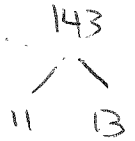
2 28

2×2 14

$2 \times 2 \times 2$ 7

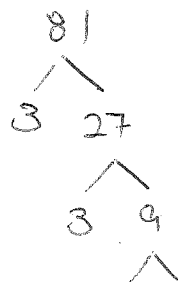
$\Rightarrow$ 1, 2, 4, 7, 8, 14, 28, 56.

b)



1, 11, 13, 143.

c)



1, 81.

3, 27.

9.

81 is a perfect square

d) 29.

1, 29.

29 is a prime #.

6. 16% - Fraction : $\frac{16}{100} \; \frac{8}{50} \; \frac{4}{25}$ $= \boxed{\frac{4}{25}}$

Decimals : 0.16.

7. 80% → 40) ÷ 8.

10% → 5

100% → 50) × 10.

OR

$0.8x = 40$

$x = \frac{40}{0.8}$

$= \frac{400}{8} = \boxed{50}$

8. Mary : $100 + 100 \times 0.12$

$= 100 + 12$

$= 112$

Jane : $100 + 100 \times 0.095$

$= 100 + 9.5$

$= 109.5$

Diff. : $112 - 109.5 = \boxed{2.5}$

9. 40% : Win

Means

60% : Lose.

$\Rightarrow 200 \times 60\%$

$= 200 \times 0.6$

$= \boxed{120}$