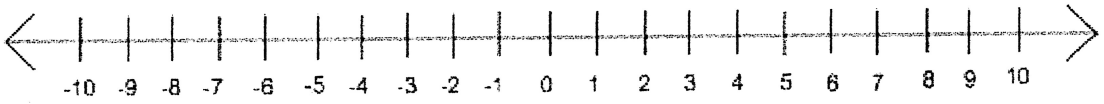
Sol'n

Integer/Fraction/Algebra Practice

1. Add or subtract each of the following WITHOUT the use of a calculator.



a) -3 + (-4)

$= -3 - 4$

$= -7$

b) 2 - (-3)

$= 2 + 3$

$= 5$

c) 5 + (-7)

$= 5 - 7$

$= -2$

d) - 4 - (-3)

$= -4 + 3$

$= -1$

e) -1 - 3

$= -4$

f) 6 - 8

$= -2$

2. Multiply or divide each of the following WITHOUT using a calculator; you may use yor multiplication table.

a) 3(-4)

$= -12$

b) -5 x -7

$= 35$

c) -8 x (9)

$= -72$

d) 42/6

$= 7$

e) 32/-8

$= -4$

f) $\frac{-56}{-7}$

$= 8$

3. Simplify each of the following fractions.

a) $\frac{36}{54}$

$= \frac{18}{27}$

$= \frac{2}{3}$

b) $\frac{24}{42}$

$= \frac{12}{21}$

$= \frac{4}{7}$

c) $-\frac{25}{30}$

$= -\frac{5}{6}$

4. Change each mixed fraction to an improper fraction.

a) $2\frac{3}{4}$ $= \frac{11}{4}$

b) $3\frac{2}{7}$ $= \frac{23}{7}$

c) $-9\frac{2}{3}$ $= -\frac{29}{3}$

5. Add or subtract each fractional expression.

a) $\frac{1}{3}+\frac{2}{5}$

$= \frac{5}{15}+\frac{6}{15}$

$= \frac{11}{15}$

b) $\frac{2}{7}-\frac{3}{4}$

$= \frac{8-21}{28}$

$= -\frac{13}{28}$

c) $-\frac{5}{6}+\frac{1}{3}$

$= -\frac{5}{6}+\frac{2}{6}$

$= -\frac{3}{6} = -\frac{1}{2}$

d) $\frac{2}{3}-\left(-\frac{1}{4}\right)$

$= \frac{2}{3}+\frac{1}{4}$

$= \frac{8+3}{12}$

$= \frac{11}{12}$

e) $-\frac{3}{5}+1\frac{1}{2}$

$= -\frac{3}{5}+\frac{3}{2}$

$= \frac{-6+15}{10}$

$= \frac{9}{10}$

f) $\frac{5}{2}-\frac{2}{1}$

$= \frac{5}{2}-\frac{4}{2}$

$= \frac{1}{2}$

6. For each pair, circle the fraction that you think represents a larger amount; pie diagrams may help.

a) $\frac{1}{2}$ *or* $\frac{3}{4}$ — $\frac{2}{4}$ $\frac{3}{4}$

b) $\frac{2}{3}$ *or* $\frac{3}{4}$ — $\frac{8}{12}$ $\frac{9}{12}$

c) $\frac{2}{7}$ *or* $\frac{1}{3}$ — $\frac{6}{21}$ $\frac{7}{21}$

7. Solve the following algebraic equations.

They'll struggle with this; any support you can provide would be great.

a) $2x+1=7$

$2x = 7-1$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$

b) $3x-2=x+10$

$3x-x = 10+2$

$\frac{2x}{2} = \frac{12}{2}$

$x = 6$

c) $-x+4=2x-8$

$-x-2x = -8-4$

$\frac{-3x}{-3} = \frac{-12}{-3}$

$x = 4$

d) $3(x-2)=12$

$3x-6 = 12$

$3x = 12+6$

$\frac{3x}{3} = \frac{18}{3}$

$x = 6$

e) $-2(x+5)=x-40$

$-2x-10 = x-40$

$-2x-x = -40+10$

$\frac{-3x}{-3} = \frac{-30}{-3}$

$x = 10$

f) $3(x-1)-(x+2)=-3$

$3x-3-x-2 = -3$

$3x-x = -3+3+2$

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

$x = 1$