Chapter 14: Average

$$\text{Average} = \frac{\text{Sum of numbers}}{\text{Total numbers}}$$

Exercise 14

1. (a) $\text{Average} = \frac{3+4+5}{3} = \frac{12}{3} = 4$

(b) $\text{Average} = \frac{8+10}{2} = \frac{18}{2} = 9$

(c) $\text{Average} = \frac{6+8+10+12+14+16}{6} = \frac{66}{6} = 11$

(d) $\text{Average} = \frac{5+7+0+8}{4} = \frac{20}{4} = 5$

(e) $\text{Average} = \frac{6+14+20+32+0+11+8}{7} = \frac{91}{7} = 13$

2. (a) Odd Numbers = 1, 3, 5, 7, 9

$\text{Average} = \frac{1+3+5+7+9}{5} = \frac{25}{5} = 5$

(b) First 10 counting numbers = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

$\text{Average} = \frac{1+2+3+4+5+6+7+8+9+10}{10} = \frac{55}{10} = 5.5$

(c) First 5 multiples of 3 are 3, 6, 9, 12, 15

$\text{Average} = \frac{3+6+9+12+15}{5} = \frac{45}{5} = 9$

(d) First 5 prime numbers = 2, 3, 5, 7, 11

$\text{Average} = \frac{2+3+5+7+11}{5} = \frac{28}{5} = 5.6$

3. Average haircuts $= \frac{40+26+35+25+31+32+0}{7} = \frac{189}{7} = 27$ haircuts

4. (a) Average marks of a student

$$= \frac{48+50+37+49+28+17+13+39+41+45+50+9+19+43+48+47+29+25+18+20}{20}$$

$$= \frac{675}{20} = 33.75$$

(b) 11 Students scored more than average.

(c) 9 Students scored less than average.

(d) None of the students scored equal to average marks.

5. (a) Average of column 1 $= \frac{9.00+4.50+0.04+10.00+15.70+0.45+15.70}{7} = \frac{55.39}{7} = 7.9$ m/s

Average of column 2 $= \frac{115+77+150+21+50+3+20}{7} = \frac{436}{7} = 62.29$ years

Average of column 3 $= \frac{68.00+2740.00+136.00+2.30+408.00+0.02+9.10}{7}$

$$= \frac{3363.42}{7} = 480.49 \text{ kg}$$

Average of column 4 $= \frac{70+40+10+200+45+620+100}{7} = \frac{1085}{7} = 155$ heart beats per minute

(b) Man, Horse, Horse, Cat

Worksheet

1. (a) Average age $= \frac{9\text{ y }8\text{ m}+8\text{ y }11\text{ m}+9\text{ y }2\text{ m}+10\text{ y }2\text{ m}+9\text{ y }10\text{ m}}{5} = \frac{45\text{ y }33\text{ m}}{5} = 9\text{ y }6\text{ m}\ \frac{90 \text{ days}}{5}$

$= 9$ y 6 m 18 days

(b) Average height $= \frac{1.35\text{ m}+1.34\text{ m}+1.42\text{ m}+1.39\text{ m}+1.35\text{ m}}{5} = \frac{6.85\text{ m}}{5} = 1.37$ m

(c) Average weight $= \frac{26.9\text{ kg}+24.8\text{ kg}+28.7\text{ kg}+28.8\text{ kg}+27.2\text{ kg}}{5} = \frac{136.4\text{ kg}}{5} = 27.28$ kg