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Year 10 Maths B Homework Sheet No. 4

To be completed on loose-leaf paper.

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Available from the homework sheet wiki

Aims:

- **To provide ongoing revision of skills and concepts**
- **To develop procedural knowledge and fluency.**

Need help? →

① Calculate:
(a) 85% of 250 **(b)** 20% of $0.40 **(c)** 90% of 80

② Simplify each of the following fractions by cancelling using the highest common factor.

(a) $\frac{9}{15}$ (b) $\frac{36}{81}$ (c) $\frac{45}{135}$

③ Evaluate the following using the lowest common denominator (LCD).

(a) $\frac{9}{11} - \frac{7}{10}$ (b) $\frac{3}{5} - \frac{2}{10}$ (c) $\frac{7}{8} - \frac{5}{6}$

④ Find the area of each rectangle and square.

(a) 4 cm (b) 6 cm, 8 cm (c) 9 mm, 70 mm (d) 2.5 km

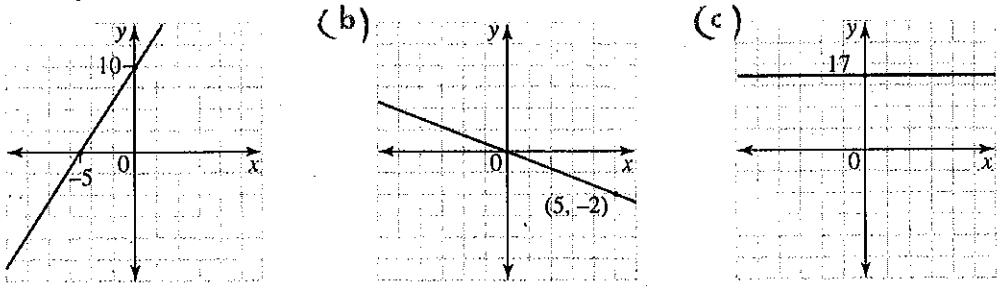
⑤ Using n to represent the unknown number, write the following statements as equations and solve them.

(a) When four is added to this number and the result multiplied by three, the answer is equal to five times the number.

(b) When this number is divided by three and two is added to the result, the answer is equal to six more than the number.

⑥ Find the gradient of the lines shown.

(a) (b) (c)



⑦ Find the linear equation given the information in each case below.
(a) gradient = 3, y-intercept = −4 (b) gradient = −2, y-intercept = −5
(c) gradient = $\frac{1}{2}$, y-intercept = 5 (d) gradient = 0, y-intercept = 6

⑧ Sketch graphs of the following linear equations.
(a) $2x-3y=6$ (b) $y=-4x$ (c) $x=7$

⑨ Calculate the following:
(a) 5−3 (b) −7−8 (c) 9−11 (d) 12×(−3) (e) −18÷−9
(f) −3×−2 (g) 0−5 (h) −4+4 (i) 0÷−2 (j) 21×−2

Answers:

① (a) 212.5 (b) 0.08 (c) 72

② (a) $\frac{3}{5}$ (b) $\frac{4}{9}$ (c) $\frac{1}{3}$

③ (a) $\frac{13}{110}$ (b) $\frac{2}{5}$ (c) $\frac{1}{8}$

④ (a) $16\,cm^2$ (b) $48\,cm^2$ (c) $630\,mm^2$ (d) $6.25\,cm^2$

⑤ (a) $n=6$ (b) $n=-6$

⑥ (a) 2 (b) $-\frac{2}{5}$ (c) 0

⑧ Use one of the following:

- x- and y-intercepts
- parallel to x- or y-axis
- line goes through the origin